

# THE LONDON RESORT

## The London Resort Development Consent Order

BC080001

### Environmental Statement Volume 2: Appendices

#### Appendix 18.4 – Factual report on ground investigation

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LONDON PARAMOUNT  
ENTERTAINMENT RESORT

FACTUAL REPORT ON  
GROUND INVESTIGATION

Prepared for LONDON RESORT COMPANY  
HOLDINGS LTD

Report Ref: 30766

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# LONDON PARAMOUNT ENTERTAINMENT RESORT

## FACTUAL REPORT ON GROUND INVESTIGATION

Prepared for LONDON RESORT COMPANY  
HOLDINGS LTD

Report Ref: 30766

PROJECT: Proposed Entertainment Resort

CONSULTANT: Atkins Ltd

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<b>ORIGINATOR</b>			<b>APPROVER</b>		
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## **1. INTRODUCTION**

It is proposed to construct a new entertainment resort on the Swanscombe Peninsula, north Kent. Geotechnical Engineering Limited (GEL) was instructed by Atkins Ltd (the Consultant) acting on behalf of London Resort Company Holdings Ltd (the Client) to act as Principle Contractor and carry out an investigation to determine the ground conditions.

The scope of works and terms and conditions of appointment were specified by the Consultant and GEL correspondence reference T20991. Amendments were made to the original scope of works primarily due to access issues. The investigation was carried out under the direction and supervision of the Consultant.

This report describes the investigation and presents the findings.

## **2. SITE LOCATION AND GEOLOGY**

The site is situated on the south bank of the River Thames at Swanscombe Marshes, 7 kilometres east of Dartford, Kent and is centered on approximate National Grid co-ordinates TQ 603 753.

British Geological Survey (BGS) England and Wales (Sheet No. 271, Dartford, Solid and Drift (1998), 1:50,000) and the BGS online geology (1:50,000) indicate the site is generally underlain by Worked Ground and Made Ground overlying Alluvium. The underlying solid geology comprises the Seaford Chalk Formation and Newhaven Chalk Formation. Superficial deposits of Head and Boyn Hill Gravel are shown to be present in the southern area of the site.



### **3. GROUND INVESTIGATION**

#### **3.1 Fieldwork**

The fieldwork was carried out in general accordance with BS5930:1999+A2:2010 during the period 9<sup>th</sup> June to 3<sup>rd</sup> July 2015 and comprised twenty-seven boreholes and five machine dug trial pits.

The exploratory hole locations were selected and set out by the Consultant and are shown on Figures 01, 02 and 03. The ground level and co-ordinates at each exploratory hole were established by this Company using GPS techniques.

The site is considered to be in an area that was subjected to significant historic bombing and therefore required an Unexploded Ordnance (UXO) survey. A preliminary risk assessment undertaken by 6 Alpha was provided by the Consultant. The survey comprised on site monitoring by a UXO specialist from 1<sup>st</sup> Line Defence Ltd. Down-hole magnetometry was undertaken at fifteen borehole locations. A UXO watching brief was provided for all trial pit locations. The use of the magnetometer and the extent of the down-hole survey is described on the relevant exploratory hole records in Appendix A.

#### **Cable Percussion with Pioneer follow-on**

The boreholes, referenced BH101, BH202, BH203 and BH204 (Appendix A), were formed using a light cable tool (shell and auger) rig utilising 300mm (or 200mm in BH203) tools and casing, reducing to 200mm (or 150mm in BH203) as the boreholes were advanced. Initially, an inspection pit was hand excavated at each borehole location to a depth of 1.20m to check for buried services. The boreholes were advanced using a clay cutter and bailer with the occasional use of a heavy chisel to assist boring.



Clean drilling techniques were required to protect the underlying formation in boreholes BH101, BH202 and BH204. In each case, the borehole was initially advanced through Made Ground using 300mm diameter tools and casing. A 250mm diameter sacrificial plastic casing was then installed to the base of the hole with a cement:bentonite grout surround and the 300mm casing withdrawn. Once the grout had cured, the borehole was then continued using 200mm diameter tools and casing. Details are presented on the relevant borehole logs in Appendix A.

Disturbed samples of the arisings were taken and retained in plastic bags and airtight containers. Undisturbed samples of 100mm nominal diameter were taken in suitable cohesive soils using a thin walled, open drive sampler (UT100). Samples were wax sealed and capped on site to prevent moisture loss.

On instruction from the Consultant, boreholes BH101 and BH204 were then advanced using heavy duty dynamic sampling techniques to produce continuous disturbed samples of 112mm diameter (BH204) and 97mm diameter (BH101). The samples were recovered in semi-rigid plastic liner.

On refusal to dynamic sampling, BH101 was advanced using wireline rotary coring techniques utilising a double-tube swivel core barrel with a semi-rigid plastic liner to recover continuous cores of 102mm diameter.

On refusal to dynamic sampling, BH202 was advanced by conventional rotary core drilling techniques utilising a double-tube swivel core barrel with a semi-rigid plastic liner to recover continuous cores of 120mm nominal diameter as described in Appendix A.





### **Dynamic sampling with rotary follow-on**

The boreholes, referenced BH201, BH501, BH502 and BH703 to BH708 (Appendix A), were formed using a track-mounted Geotechnical Pioneer Rig. Initially, an inspection pit was hand excavated at each borehole location to a maximum depth of 1.20m to check for buried services. Disturbed samples were taken and retained in a combination of plastic tubs, bags and glass jars. Heavy duty dynamic sampling techniques were then employed to produce a continuous disturbed sample of 112mm nominal diameter reducing to 97mm (except BH201) as the borehole was advanced. The samples were recovered in semi-rigid plastic liner.

On refusal to dynamic sampling the boreholes BH201, BH501, BH502, BH706 and BH708 were continued by rotary core drilling techniques utilising a water or polymer flush. A double-tube swivel core barrel with a semi-rigid plastic liner was utilised to recover continuous cores of 90mm diameter (or 120mm in BH201). Where appropriate, dynamic sampling techniques were carried out to recover dropped core or where rotary core drilling was not suitable.

The dynamic samples and rotary cores were extracted horizontally from the sampler and core barrel respectively, the semi-rigid liner was cut to length and caps placed at each end to retain moisture. All samples and core were retained in sequence in labelled, wooden coreboxes.

Undisturbed samples of 100mm nominal diameter were taken in suitable cohesive soils using a thin walled, open drive sampler (UT100). Samples were wax sealed and capped on site to prevent moisture loss.

Undisturbed samples of suitable materials were also sub-sampled from the rotary cores. Samples were cleaned and trimmed to remove extraneous material and drilling fluid, wrapped in foil and cling film, and wax sealed to prevent moisture loss.



### **Dynamic sampling**

The boreholes, referenced WS101, WS102, WS201G, WS202, WS203, WS204, WS301 and WS301C (Appendix A), were formed using a Terrier 2000 rig. Initially, an inspection pit was hand excavated at each borehole location to a maximum depth of 1.20m to check for buried services. The inspection pits WS201, WS201A to WS201F, WS301A and WS301B were terminated due to obstructions. Disturbed samples were taken and retained in a combination of plastic tubs, bags and glass jars. Dynamic sampling techniques were then employed to produce a continuous disturbed sample of 97mm or 70mm diameter reducing to 70mm or 50mm respectively as described on the relevant borehole log. The samples were recovered in semi-rigid plastic liner.

The samples were extracted horizontally from the sampler, labelled and caps placed each end to retain moisture.

Undisturbed samples of 70mm nominal diameter were taken in suitable cohesive soils using an open drive sampler (U70). Samples were wax sealed and capped on site to prevent moisture loss.

### **In Situ Testing**

Standard penetration tests (SPT) were carried out in all boreholes in general accordance with BS EN ISO 22476-3:2005+A1:2011. A split barrel or a solid cone was used depending upon the materials encountered and the split barrel samples retained in airtight jars. The SPT N value was taken as the number of blows to penetrate the 300mm test drive following a 150mm seating drive. Where low penetration was recorded the seating drive was terminated at 25 blows and the test drive completed after a further 100 blows. Detailed SPT results, together with the energy ratio ( $E_r$ ), are presented in Appendix A and summarised as uncorrected N values on the borehole logs.



Variable head permeability tests were carried out in BH202 to BH204 in general accordance with the procedures given in BS5930:1999+A2:2010. Falling head tests were carried out by topping up the borehole with clean water. Coefficients of permeability were calculated using the BS5930:1999+A2:2010 general approach/time lag method (after Hvorslev) and the results are presented in Appendix A.

### **Groundwater Ingress**

Boreholes were monitored for groundwater ingress as drilling proceeded. Upon encountering water, sampling was temporarily stopped to allow the level to stabilise and, where possible, water samples to be taken. Water levels were also recorded at the start and finish of each day's work and are presented on the relevant log.

### **Gas/Groundwater Monitoring**

On completion gas/water monitoring standpipes were installed in selected boreholes as instructed by the Consultant. Each installation consisted of a 50mm ID HDPE slotted tube set in a filter response zone of non-calcareous pea gravel. The installation was sealed above and below with a bentonite plug (WS102 and WS204 were sealed above only) and accessed via a valve assembly. The installations were protected at the surface by a lockable, galvanised steel borehole helmet cover or flush cover (boreholes BH705 and BH708) set in concrete. Selected boreholes were further protected by a 900mm diameter concrete ring placed around the headworks. Installation details are given on the relevant borehole log.

On completion, all other boreholes were backfilled with a combination of arisings and bentonite pellets and the surface reinstated.

The installations were tested for carbon dioxide, methane, oxygen, hydrogen sulphide and carbon monoxide using a Gas Analyser GFM 435. Installations were monitored for gas flow using a flow pod attached to the instrument and reported as gas flow in litres/hour. Subsequent readings are presented in Appendix A.



The installations were also monitored for Volatile Organic Compounds (VOC's) using a MiniRAE 2000 Portable Photo-Ionisation Detector (PID) with a 10.6eV gas discharge lamp. The detector uses an ultra violet light source to break down the chemicals into positive and negative ions (ionisation). The detector measures the charge of the ionised gas and converts the signal into current. The current is then amplified and displayed as "ppm"; after measurement the ions reform the original gas or vapour allowing it to be sampled.

Prior to water sampling, the water monitoring standpipes were developed by bailing and then purged until at least three well volumes of water had been removed.

Surface water samples were collected at five locations, referenced SW01 to SW05, as directed by the Consultant.

The trial pits, referenced TP201, TP301, TP302, TP701 and TP702 (Appendix A), were formed by a wheeled excavator with a 0.60m wide backactor bucket.

Representative disturbed samples were taken and retained in sealed plastic bags and airtight containers to retain moisture content.

Hand vane and pocket penetrometer tests were carried out in suitable cohesive material. The results are presented on the trial pit logs and tabulated in Appendix A.

Photographs of the trial pit profile and spoil heap were taken and are presented separately.

Samples for chemical analyses were dispatched directly to i2 Analytical Ltd under a Chain of Custody. The remaining samples were brought to this Company's laboratory for testing and storage.



### 3.2 Logging

The logging of soils and rocks was carried out by an Engineering Geologist in general accordance with BS5930:1999+A2:2010 and CIRIA C574. A key to the exploratory hole logs is presented in Appendix A.

Detailed descriptions of the core and samples are given in the borehole logs, Appendix A, along with details of sampling, in situ testing, groundwater ingress and relevant comments on drilling techniques.

Prior to logging, photographs of the core were taken and are presented separately.

The trial pits were logged in situ to a depth of approximately 1.20m and thereafter from the surface. Detailed descriptions are given in the trial pit logs, Appendix A, along with details of sampling and in situ testing, groundwater ingress and relevant comments on stability.

Samples taken for contamination testing were monitored for Volatile Organic Compounds (VOC's) using a MiniRAE 2000 Portable Photo-Ionisation Detector (PID) with a 10.6eV gas discharge lamp. The detector uses an ultra violet light source to break down the chemicals into positive and negative ions (ionisation). The detector measures the charge of the ionised gas and converts the signal into current. The current is then amplified and displayed as "ppm"; after measurement the ions reform the original gas or vapour allowing it to be sampled. The readings are presented on the borehole logs in Appendix A.



### 3.3 Laboratory Testing

A schedule of laboratory tests was prepared by the Consultant, the following tests being carried out in accordance with BS1377:1990, unless stated otherwise. The number in brackets refers to the test number given in that standard. The results are presented in Appendix B.

The natural water content was determined on eighty-one selected samples in accordance with BS EN ISO 17892-1:2014.

The natural moisture content [Part 2:3.2] was determined on forty-seven selected samples.

The saturated moisture content [Part 2:3.3] was determined on nineteen selected samples.

Liquid limit, plastic limit and plasticity index tests [Part 2:4.3, 5.3 and 5.4] were carried out on seventy-four selected samples. Atterberg line plots have also been presented.

The linear shrinkage tests [Part 2:6.5] was carried out on one selected cohesive sample.

The bulk density was determined on three samples by the linear measurement method in accordance with BS EN ISO 17892-2:2014-5.1.

The bulk density was determined on two samples by the immersion in fluid method in accordance with BS EN ISO 17892-2:2014-5.2.

The bulk density was determined on two samples by the linear measurement method [Part 2:7.2].



Particle size distributions were determined for eighty-four samples by wet sieving [Part 2:9.2]. The fine fractions of thirty of these samples were further analysed by sedimentation using the pipette method [Part 2:9.4]. The fine fractions of twenty-eight samples were further analysed by sedimentation using the hydrometer method [Part 2:9.5]. The results are presented as grading curves.

The compaction characteristics of three selected soil samples were investigated using a 2.5kg rammer [Part 4:3.2 and 3.3/3.4]. The results are presented as a plot of dry density against moisture content.

The one-dimensional consolidation properties [Part 5:3] were determined in the oedometer on two 63.5mm diameter by 19mm thick specimens prepared from UT100 samples. The results are presented in tabular form and also as graphs of void ratio versus log (effective pressure).

Four specimens were prepared from dynamic samples remoulded at received moisture content. Three sub-specimens, each 63.5mm diameter in plan were tested at different normal stresses, specified by the Consultant, in the small shear box apparatus [Part 7:4].

Two selected samples were subsampled to provide specimens which had their permeability determined in the triaxial cell [Part 6:6]. The specimens were of nominal sizes 100mm in diameter by 100mm in height. The specimens were installed in the cell and were saturated by increments of cell pressure and back pressure applied alternatively. The specimen was then consolidated to the required effective stress and then subjected to a pressure difference to cause water to flow downward through the specimen. The permeability was determined once steady state conditions were achieved, i.e. the flow of water into the specimen equals the flow of water out. The results of one of these tests are to follow.



Unconsolidated undrained triaxial compression tests were carried out under a single cell pressure on seven specimens prepared from full diameter U70 or UT100 samples [Part 7:8]. A cell pressure specified by the Consultant was used. Fully saturated,  $\phi_u = 0$ , conditions were assumed and the undrained cohesion,  $c_u$  was taken as half the deviator stress at failure.

A single unconsolidated undrained multistage triaxial compression test was carried out on one specimen prepared from a full diameter UT100 sample [Part 7:9]. The cell pressures for each stage of the test were specified by the Consultant. Fully saturated,  $\phi_u = 0$ , conditions were assumed and the undrained cohesion,  $c_u$ , for each stage was taken as half the maximum deviator stress.

Consolidated drained triaxial compression tests with measurement of volume change [Part 8:4, 5, 6, 8 and Head (1986)] were carried out on four full diameter specimens prepared from UT100 samples.

A single consolidated undrained multistage triaxial compression test with pore-water pressure measurements [Part 8:4, 5, 6, 7 and Head (1986)] was carried out on one set of three 38mm diameter specimens prepared from a UT100 sample.

Seven rock cores were tested for their unconfined compressive strength in accordance with ISRM (1981).

Point load index tests were carried out on thirty-one selected lengths of core in accordance with ISRM (1985).

Five undisturbed samples were extruded, split, photographed and described in accordance with BS5930:2010.





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The BRE SD1 (2005) suite of tests was carried out on one sample by Chemtest Limited using in-house methods.

The BRE SD1 (2005) reduced suite; water soluble sulphate, total sulphate and total sulphur, together with pH were determined for six soil samples by i2 Analytical Limited using in-house methods.

The organic matter content was determined for seven selected samples by i2 Analytical Limited using in-house methods, three samples by Chemtest Limited and two samples by ESG.

**GEOTECHNICAL ENGINEERING LIMITED**



#### 4. REFERENCES

British Standards Institution (2010): Code of practice for site investigations. BS 5930 incorporating Amendments No. 1 & 2. BS5930: 1999+A2:2010. Amendment 1 removes text superseded by BS EN ISO 14688-1:2002, BS EN ISO 14688-2:2004 and BS EN ISO 14689-1:2003, and makes reference to the relevant standard for each affected sub clause. Amendment 2 removes text superseded by BS EN 22475-1:2006 and makes reference to the relevant standard for each affected sub clause.

British Standards Institution (1990): Methods of tests for soils for civil engineering purposes. BS 1377 Parts 1-9.

British Standards Institution (2014): Geotechnical investigation and testing – Laboratory testing of soil. Part 1: Determination of water content. BS EN ISO 17892-1:2014.

British Standards Institution (2014): Geotechnical investigation and testing – Laboratory testing of soil. Part 2: Determination of bulk density. BS EN ISO 17892-1:2014.

British Standards Institution (2012): Geotechnical investigation and testing. Field testing. Standard penetration test. BS EN ISO 22476-3:2005+A1:2011.

Building Research Establishment (2005): Concrete in aggressive ground. BRE Special Digest 1. Third Edition.

CIRIA Publication C574 (2002): The engineering properties of chalk.

ISRM (1981). Suggested methods for rock characterisation, testing and monitoring, edited by E T Brown. Pergamon Press.







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ISRM Suggested method for determining point load strength, revision to ISRM suggested method (1985). Pergamon Press.

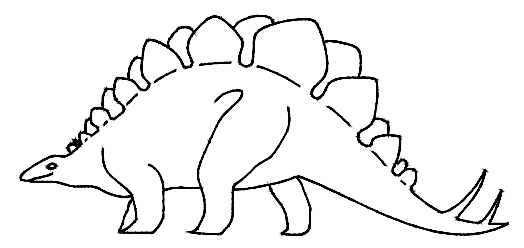
Head K H (1986): Manual of Soil Laboratory Testing. Volume 3 – Effective Stress Tests. Pentech Press.



**Key.**

	Borehole Location
	Window Sample Location
	Trial Pit Location
	Surface Water Sample Location

**Notes:**  
Drawing supplied by client.



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**Client:**  
London Resort Company Holdings Ltd

**Engineer:**  
Atkins

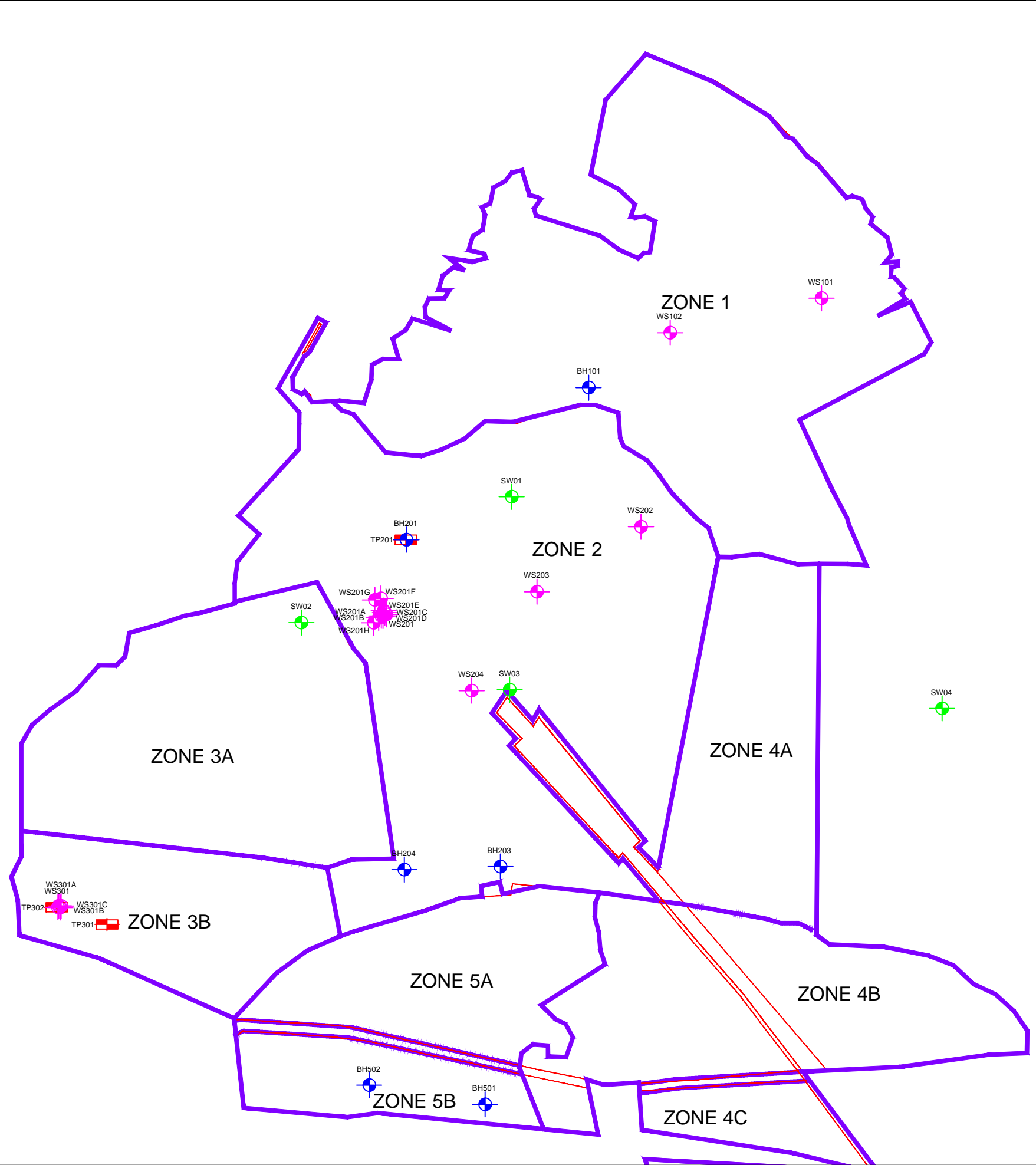
**Site:**  
London Paramount Entertainment Resort

**Title:**  
Exploratory Hole Location Plan

<b>Drawn By:</b> MPE	<b>Checked By:</b> ELE	<b>Paper Size:</b> A3
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<b>Scale:</b> 1/20,000	<b>Date:</b> August 2015
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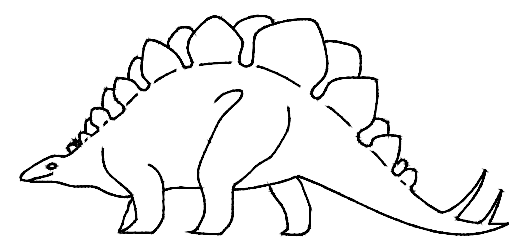
<b>Contract:</b> 30766	<b>Figure:</b> 01
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**Key.**

	Borehole Location
	Window Sample Location
	Trial Pit Location
	Surface Water Sample Location

**Notes:**  
Drawing supplied by client.



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**Client:** London Resort Company Holdings Ltd

**Engineer:** Atkins

**Site:** London Paramount Entertainment Resort

**Title:** Exploratory Hole Location Plan

<b>Drawn By:</b> MPE	<b>Checked By:</b> ELE	<b>Paper Size:</b> A3
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<b>Scale:</b> 1/8000	<b>Date:</b> August 2015
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<b>Contract:</b> 30766	<b>Figure:</b> 02
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**Key.**

	Borehole Location
	Window Sample Location
	Trial Pit Location
	Surface Water Sample Location

**Notes:**  
Drawing supplied by client.

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**Client:**  
London Resort Company Holdings Ltd

**Engineer:**  
Atkins

**Site:**  
London Paramount Entertainment Resort

**Title:**  
Exploratory Hole Location Plan

<b>Drawn By:</b> MPE	<b>Checked By:</b> ELE	<b>Paper Size:</b> A3
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<b>Scale:</b> 1/8000	<b>Date:</b> August 2015
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<b>Contract:</b> 30766	<b>Figure:</b> 03
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**APPENDIX A**  
**FIELDWORK DATA**

# KEY TO EXPLORATORY HOLE LOGS

### Sample type

D Small disturbed	D* Contamination	B Bulk disturbed	LB Large bulk disturbed	W Water	Cs Core subsample (prepared)
X Dynamic	C Core	U Undisturbed	UT Undisturbed thin wall	P Piston	Xs Dynamic subsample (prepared)

### Test type

S SPT - Split spoon sampler followed by uncorrected SPT 'N' Value  
 C SPT - Solid cone followed by uncorrected SPT 'N' Value  
 (\*250 - Where full test drive not completed, linearly extrapolated 'N' value reported, \*\* - Denotes no effective penetration)

H Hand vane - direct reading in kPa - not corrected for BS1377 (1990). Re\* denotes refusal  
 M Mackintosh probe - number of blows to achieve 100mm penetration  
 PP Pocket penetrometer - direct reading in kg/sq.cm  
 Vo Headspace vapour reading, uncorrected peak values in ppm, using a PID (calibrated with Isobutylene, using a 10.6eV bulb)

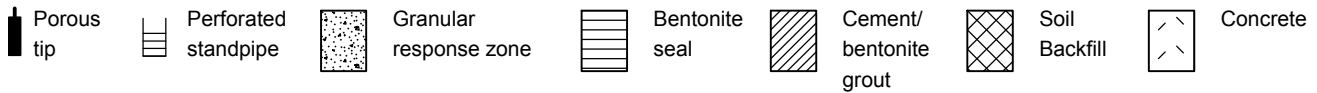
### Sample/core range/l<sub>r</sub>

- | Dynamic sample
- █ Undisturbed sample - open drive including thin wall. Symbol length reflects recovery
- x = Total Core Recovery (TCR) as percentage of core run
- y = Solid Core Recovery (SCR) as percentage of core run. Assessment of core is based on full diameter.
- z = Rock Quality Designation (RQD). The amount of solid core greater than 100mm expressed as percentage of core run.

Where SPT has been carried out at beginning of core run, disturbed section of core excluded from SCR and RQD assessment.

l<sub>r</sub> - fracture spacing - the average fracture spacing (mm) over the indicated length of core. Where spacing varies significantly, the minimum, average and maximum values are given. NI = non-intact core NA = not applicable

### Instrumentation



### Stratum boundaries



### Logging

The logging of soils and rocks has been carried out in general accordance with BS 5930:1999 incorporating Amendments 1 (2006) & 2 (2010). Amendment 1 removes text superceded by BS EN ISO 14688-1:2002, BS EN ISO 14688-2:2004 and BS EN ISO 14689-1:2003, and makes reference to the relevant standard for each affected sub clause. Amendment 2 removes text superceded by BS EN ISO 22475-1:2006 and makes reference to the relevant standard for each affected sub clause.

Chalk is logged in general accordance with Lord et al (2002) CIRIA C574. Where possible, dynamic samples in chalk have been logged in accordance with CIRIA C574; descriptions and gradings should be treated with caution given the potential for sample disturbance.

For rocks the term fracture has been used to identify a mechanical break within the core. Where possible incipient and drilling induced fractures have been excluded from the assessment of fracture state. Where doubt exists, a note has been made in the descriptions. All fractures are considered to be continuous unless otherwise reported.

Made Ground is readily identifiable when, within the material make up, man made constituents are evident. Where Made Ground appears to be reworked natural material the differentiation between in situ natural deposits and Made Ground is much more difficult to ascertain. The interpretation of Made Ground within the logs should therefore be treated with caution.

The descriptors "topsoil" and "tarmacadam" are used as generic terms and do not imply conformation to any particular standard or composition.

### General Comments

- The process of drilling and sampling will inevitably lead to disturbance, mixing or loss of material in some soil and rocks.
- Indicated water levels are those recorded during the process of drilling or excavating exploratory holes and may not represent standing water levels.
- Legends are drawn in accordance with BS 5930:1999 incorporating Amendment 2.
- All depths are measured along the axis of the borehole and are related to ground level at the point of entry.



# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend	
18/06/15 0730hrs	1B	0.30						0.00 - 0.40m: Driller notes rags, wood and concrete. Firm friable brown mottled black, reddish brown, white and grey slightly sandy slightly gravelly CLAY with frequent rootlets (up to 1mm diameter). Gravel is subangular and subrounded fine and medium flint, chalk, rarely brick and charcoal. (MADE GROUND)				
	2D*	0.30		Vo 0.0								
	3B	0.50										
	4D*	0.50		Vo 0.0								
	5B	1.00								1.00		4.05
	6D*	1.00		Vo 0.0								
		1.20 - 1.65	Nil		C 7				Soft brown mottled grey and orangish brown slightly sandy gravelly CLAY with rare rootlets (up to 1mm diam). Gravel is subangular to rounded fine to coarse flint and rare brick and concrete. (MADE GROUND)	1.40		3.65
	7B	1.20 - 1.30										
	8B	1.40 - 1.60										
	9D*	1.40		Vo 0.0					1.20 - 1.40m: Poorly cemented Cement Kiln Dust (CKD).			
	10D*	1.50		Vo 3.5								
	11D*	2.00		Vo 2.0					Very soft to soft dark brown mottled brown slightly sandy silty CLAY with cobble sized piece of clay piping. Hydrocarbon odour. (MADE GROUND)			
	12UT	2.20 - 2.65	2.20									
	13B	2.40 - 2.60										
	14D*	2.40		Vo 0.0								
	15D	2.65							2.65 - 2.80m: Strong odour (drillers' description).			
	16W	2.80								3.00		2.05
	17B	3.00 - 3.20										
18D*	3.00		Vo 0.0				Loose off-white and dark brownish grey mottled orange brown slightly sandy GRAVEL. Gravel is angular to subangular fine to coarse clinker, ash and cemented Cement Kiln Dust (CKD). (MADE GROUND)					
	3.20 - 3.65	3.00		C 2								
	4.00 - 4.20											
	4.00		Vo 0.0									
	4.20 - 4.65	4.20		C<1								
	4.50		Vo 0.0					4.70	0.35			
	5.00 - 5.20						Very soft dark greyish brown gravelly silty CLAY with frequent fibrous partially decomposed organic material. Gravel is subangular and subrounded fine and medium white flint. (ALLUVIUM)					
	5.00		Vo 0.0									
	5.20 - 5.65	5.20										
	5.50		Vo 0.0					5.60	-0.55			
18/06/15 1730hrs 0.00m	26D	5.65						Plastic brownish grey pseudofibrous PEAT. (ALLUVIUM (PEAT))				
	27B	6.00 - 6.20		Vo 0.0								
	28D*	6.00										
19/06/15 0730hrs 0.00m	29D	6.20 - 6.65	6.00	S 2								
	30B	7.00 - 7.20										
	31D*	7.00		Vo 0.0								
	32UT	7.20 - 7.65	7.20				Very soft greyish brown silty CLAY with frequent part decomposed fibrous organic fragments. (ALLUVIUM (PEAT))	6.90	-1.85			
	33D	7.65										
	34B	8.00 - 8.20										
Continued Next Page									{8.00}			

EQUIPMENT: Light cable percussive (shell and auger) rig and Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (300mm) 1.20-6.00m and (200mm) 6.00-22.50m. Dynamic sampled (113mm) 22.50-26.20m. Rotary core drilled (146mm wireline) 26.20-60.20m using a water flush.  
 CASING: 300mm diam to 6.00m, 250m diam HDPE sacrificial grouted in to 6.00m (300mm diam withdrawn), 200mm diam to 22.50m, 168mm diam to 27.50m and 140mm diam to 60.20m.  
 BACKFILL: On 30/06/2015, borehole backfilled with bentonite pellets 60.20-40.50m. A slotted standpipe (50mm) with geosock was installed to 40.00m, granular response zone 40.50-24.50m, bentonite seal 24.50-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-10.65m. No anomalies encountered. Driller notes reduced flush returns 28.50-45.20m (65-75% returned) and 45.20-60.20m (10-20% returned). Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.  
 EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
1.10	Nil	0.80	20	Fast inflow.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	35D*	8.00		Vo 0.0							
	36D	8.20 - 8.65	8.00	S 1					8.50	-3.45	
	37D	8.20									
	38D*	8.50		Vo 0.0				Very soft brownish grey mottled black peaty silty CLAY. (ALLUVIUM (PEAT))	9.00	-3.95	
	39B	9.00 - 9.20									
	40D*	9.00		Vo 0.0				Dark brown pseudofibrous PEAT with rare pockets (up to 40mm) of soft grey silty clay. (ALLUVIUM (PEAT))			
	41UT	9.20 - 9.65	9.20								
	42D	9.65									
	43D*	10.00		Vo 0.0							
	44B	10.20 - 10.40									
	45D	10.50 - 10.95	10.50	S 1							
	46D	10.50							10.90	-5.85	
	47B	11.00 - 11.20						Very soft light grey mottled brown and black peaty silty CLAY. (ALLUVIUM (PEAT))			
	48D*	11.00		Vo 0.0							
	50UT	12.00 - 12.45	12.00								
	49B	12.00 - 12.20									
	52D*	12.00		Vo 0.3							
	53D	12.45									
	51B	13.00 - 13.20						Plastic grey and brown pseudofibrous PEAT. (ALLUVIUM (PEAT))	13.00	-7.95	
	54D*	13.00		Vo 0.0					13.30	-8.25	
	55B	13.30 - 13.50									
	56D*	13.30		Vo 0.1				Firm brown and black fibrous PEAT with pockets (up to 60mm) of very soft light grey silty clay. (ALLUVIUM (PEAT))	13.90	-8.85	
	57D	13.50 - 13.95	13.00	S 6							
	58D	13.50									
	59B	14.00						Soft brown and grey very sandy peaty silty CLAY. (ALLUVIUM (PEAT))			
	60D*	14.00		Vo 0.1							
	61D*	14.80		Vo 0.0							
	64B	15.00									
	UT	15.00 - 15.45						Soft greyish brown slightly gravelly sandy silty CLAY. Gravel is subangular to rounded fine to coarse flint. (ALLUVIUM (PEAT))	15.00	-9.95	
	62B	15.00 - 15.45		Vo 0.0							
	63D*	15.00									
	65B	16.00 - 16.20									
	66D*	16.00		Vo 0.2				Loose brownish grey gravelly silty SAND. Gravel is subangular and subrounded fine and medium flint. (RIVER TERRACE DEPOSITS)	16.00	-10.95	
19/06/15 1730hrs 7.10m											
22/06/15 0730hrs 4.80m		16.50 - 16.95	16.50	C 7							
	67B	17.00 - 17.20									
	68D*	17.00		Vo 0.0				Dense greyish brown locally yellowish brown slightly silty sandy GRAVEL. Gravel is subangular to rounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	17.00	-11.95	
		18.00 - 18.45	18.00	C 35							
Continued Next Page									{18.00}		

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water strike (m) casing (m) rose to (m) time to rise (m) remarks  
 13.90 10.50 10.40 20

	CONTRACT	CHECKED
	<b>30766</b>	<b>EC</b>

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	69B 70D*	18.00 - 18.20 18.00		Vo 0.4					18.80	-13.75	
	71B 72D*	19.00 - 19.20 19.00		Vo 0.4				Dense brownish grey slightly gravelly fine to coarse SAND. Gravel is subangular to rounded fine to coarse flint. (RIVER TERRACE DEPOSITS)			
		19.50 - 19.95	19.50	C 40							
	73B 74D*	20.00 - 20.20 20.00		Vo 0.3				Brown locally orangish brown and white sandy GRAVEL. Gravel is subangular to rounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	20.00	-14.95	
	75D 76B 77D 78D*	21.00 - 21.45 21.00 - 21.20 21.00 21.00	21.00	S 7 Vo 0.3				White CHALK recovered as sandy silty subangular to rounded fine to coarse chalk and rare flint GRAVEL.	20.80	-15.75	
22/06/15 1730hrs 5.00m	79B 80D*	22.00 - 22.20 22.00		Vo 0.2							
	81D 82D	22.50 - 22.95 22.50	22.50	S 5					22.50	-17.45	
25/06/15 1200hrs 2.60m	83X	22.50 - 24.00						Structureless CHALK composed of white and off-white slightly sandy gravelly SILT. Gravel is angular to subrounded fine to coarse very weak medium density white chalk. (Probably CIRIA Grade Dm) 22.90 - 23.00m: Subangular chalk cobble.			
	84D*	23.40 - 23.50		Vo 0.0							
	85D*	23.90 - 24.00		Vo 0.0							
	86D 87X	24.00 - 24.45 24.00 - 25.50	22.50	S 26							
	88D*	25.00 - 25.10		Vo 0.0							
	89D 90X	25.50 - 25.95 25.50 - 26.20	23.30	S 53				25.40m: Tabular grey flint.			
	91D*	26.00 - 26.10		Vo 0.0				26.00 - 26.10m: Gravel sized flint.			
	92C	26.20 - 27.00	26.20		53 0 0				26.65	-21.60	
	93C	27.00 - 28.50	27.00		99 0 0			Structureless CHALK composed of white slightly sandy silty angular to subrounded fine to coarse GRAVEL. Clasts are extremely weak low and medium density. Matrix is white. (CIRIA Grade Dc) 27.00 - 27.10m: Cobble sized black nodular flint. Extremely weak medium density white with rare brown specks CHALK. Fractures are subhorizontal to 30° and 75° to subvertical extremely closely and very closely	27.10	-22.05	
								Continued Next Page	{28.00}		

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water strike (m) casing (m) rose to (m) time to rise (m) remarks



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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 4 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1730hrs 9.85m	94D	28.50 - 28.95	28.50	S 84	97 0 0			28.20 - 28.25m: Coarse gravel sized rinded nodular flint.	28.20	-23.15	
	95C	28.50 - 30.00						27.20 - 27.30m: Cobble sized black nodular flint. 27.70 - 27.75m: Coarse gravel sized rinded nodular flint.			
26/06/15 0815hrs 9.80m	96C	30.00 - 31.00	30.00		67 29 18	NI 140 190		Structureless CHALK recovered as slightly sandy gravelly angular to subrounded COBBLES. Clasts are extremely and very weak medium density white with rare grey marl staining. Matrix is white and light greyish white. (CIRIA Grade Dc)	30.10	-25.05	
	97Cs	30.20						28.20 - 28.25m: Coarse gravel sized rinded nodular flint. 28.50 - 28.55m: Coarse gravel sized rinded nodular flint. 28.95m: Medium gravel sized rinded nodular flint.			
	98C	31.00 - 31.70	31.00		47 40 33			Extremely and very weak medium density white CHALK. Fractures are subhorizontal to 15° and 70° to subvertical closely spaced planar smooth infilled (up to 15mm) with angular fine chalk gravel and white silt frequently with a veneer of grey marl, rare orange staining. (CIRIA Grade C3)	32.30	-27.25	
	99Cs	31.45						31.00 - 31.15m: Cobble sized nodular black flint recovered non-intact.			
	100C	31.70 - 33.20	31.70	C*222	96 65 65			31.25 - 32.30m: Subvertical fractures not observed. 31.40m: Calcite band (up to 2mm thick). 31.60m: Fracture surface with a veneer of greyish green marl (up to 2mm). 31.90 - 41.10m: Flint gravel recovered non-intact.			
	101Cs	32.70 - 32.95	32.20		70 170 320			Very weak medium density white CHALK with frequent thin laminae and wisps of light grey marl. Fractures are subhorizontal to 20° closely and medium spaced planar striated infilled (up to 2mm) with grey marl. (CIRIA Grade B3 to B2)			
	102Cs	33.05						32.40 - 32.45m: Flint gravel recovered non-intact.			
	103C	33.20 - 34.70	33.20		100 67 40			33.40 - 33.50m: Flint gravel recovered non-intact. 33.55 - 33.70m: 60° fracture planar smooth with light grey marl veneer. 33.90m: Medium flint gravel. 34.05m: Gravel sized flint.			
	104Cs	34.20	34.70	C*400	80 170 490			Very weak low and medium density white CHALK with rare wisps of grey marl. Fractures are subhorizontal to 15° closely and medium spaced undulating smooth infilled (up to 3mm) with a veneer of grey and dark grey marl. Rare fine to coarse gravel sized rinded nodular flint. (CIRIA Grade B3 to B2)			
	105Cs	34.45 - 34.70						35.00m: Subhorizontal fracture surface stained grey with up to 4mm penetrative discolouration.			
	106C	34.70 - 36.20						36.20 - 37.70m: Limited recovery, core loss presumed to be chalk, not recovered due to flint jamming in the core barrel. 36.55m: Cobble sized nodular black flint recovered non-intact. 36.75m: Cobble sized black nodular flint recovered non-intact. 37.05m: Cobble sized black nodular flint recovered non-intact.			
		107Cs	35.70	36.20		59 49 0					
108Cs		35.95 - 36.20	36.55m: Cobble sized nodular black flint recovered non-intact.								
109C		36.20 - 37.70	36.75m: Cobble sized black nodular flint recovered non-intact. 37.05m: Cobble sized black nodular flint recovered non-intact.								
	110Cs	37.40 - 37.60	37.70	C*316	93 74			Continued Next Page			
	111C	37.70 - 39.20									

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water strike (m) casing (m) rose to (m) time to rise (m) remarks



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{38.00}

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 5 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
					69			37.75 - 39.90m: Cobble sized black nodular flint recovered non-intact.			
	112Cs	38.85 - 39.20									
	113C	39.20 - 40.70	39.20		96 74 69			39.50 - 39.65m: Flint gravel recovered non-intact. 39.60 - 39.70m: Wisps of rare black staining (up to 1mm).			
	114Cs	39.65						40.00 - 40.15m: Cobble sized black nodular flint recovered non-intact.			
	115Cs	40.25 - 40.70						40.80 - 40.90m: Cobble sized nodular rimmed flint recovered non-intact.			
	116C	40.70 - 40.84 40.70 - 42.20	40.70	C*500	93 75 64			41.40m: Fine gravel sized pocket of yellowish brown clay with yellowish orange staining. 41.50 - 41.55m: Subhorizontal fracture infilled (up to 50mm) with subangular and subrounded fine to coarse marly chalk gravel with grey marl on fracture surface.			
	117Cs	41.50 - 41.90						42.20 - 42.35m: Cobble sized rimmed nodular flint recovered non-intact. 42.45 - 42.90m: Rare orange staining.			
	118Cs	42.10			76 67 59						
	119C	42.20 - 43.70	42.20								
	120C	43.70 - 43.85 43.70 - 45.20	43.70	C*400	100 77 66			44.30 - 44.75m: Flint recovered non-intact.			
26/06/15 1345hrs 9.00m	121Cs	44.80						44.75 - 44.95m: Frequent angular fine to coarse flint gravel.			
29/06/15 1210hrs 8.60m	122C	45.20 - 46.70	45.20		99 55 42						
	123C	46.70 - 48.20	46.70		60 230 370			Very weak medium and high density white CHALK with frequent closely and medium spaced wisps and laminae of light grey marl. Fractures are subhorizontal to 30° closely and medium spaced undulating smooth infilled (up to 7mm) with white silt and a veneer of grey marl (up to 2mm). (CIRIA Grade C3 to C2) 46.05 - 46.25m: Frequent orange staining. 46.25 - 46.30m: Flint gravel recovered non-intact.	45.95	-40.90	
Continued Next Page									{48.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:35 RSWG\DA EC

water strike (m) casing (m) rose to (m) time to rise (m) remarks



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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 6 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	124C	48.20 - 49.70	48.20		100 71 71			48.15 - 48.20m: Flint gravel recovered non-intact. 48.45m: 10° fracture infilled (up to 5mm) with grey marl. 48.90 - 48.95m: Intersecting subhorizontal and 60-65° fractures undulating smooth infilled (up to 10mm) with white silt and with up to 4mm grey and dark grey marl.			
	125C	49.70 - 51.20	49.70		92 71 59			49.65 - 49.80m: Cobble sized rinded nodular flint recovered non-intact. 50.55m: Fracture stained light grey with up to 5mm penetrative discolouration.			
	126C	51.20 - 52.70	51.20		100 80 60			51.00m: Thin lamination (5mm) of grey marl. 51.10 - 51.20m: Flint gravel recovered non-intact. 51.25 - 51.30m: Flint gravel recovered non-intact. 51.35 - 51.45m: Cobble sized nodular black flint recovered non-intact. 51.70m: Fracture locally stained greyish brown with a veneer of grey marl (up to 2mm). 51.90 - 51.95m: Flint gravel recovered non-intact.			
	127C	52.70 - 54.20	52.70		100 81 62			52.40 - 52.55m: Cobble sized rinded nodular flint recovered non-intact. 53.25 - 53.45m: Frequent orange laminae and staining. 53.50 - 53.55m: Flint gravel recovered non-intact.	53.80	48.75	
	128C	54.20 - 55.70	54.20		100 93 89			Very weak high density locally medium density white with rare orange staining CHALK with rare thin laminae and wisps of light grey marl. Fractures are subhorizontal to 20° closely and medium spaced undulating smooth infilled (up to 5mm) with white silt or grey marl. Rare angular and subangular fine to coarse flint gravel. (CIRIA Grade C3 to C2) 54.65m: Subhorizontal fracture infilled (up to 30mm) with white angular and subangular fine and medium chalk gravel. Possibly drilling disturbed. 54.95 - 55.10m: Frequent orange staining.			
	129C	55.70 - 57.20	55.70		99 71 71			56.20 - 56.30m: Cobble sized rinded nodular flint recovered non-intact.			
	130Cs	56.50									
	131C	57.20 - 58.70	57.20		99 75 59						
Continued Next Page									{58.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:35 RS/WG/DA EC

water strike (m) casing (m) rose to (m) time to rise (m) remarks



CONTRACT  
**30766**

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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 7 of 7

Start Date 18 June 2015 Easting 560528.1

Scale 1 : 50

End Date 30 June 2015 Northing 176118.8 Ground level 5.05mOD

Depth 60.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
29/06/15 1445hrs 6.95m	132Cs	58.44 - 58.70	58.70		100 73 43			Very weak high density white with rare orange staining CHALK. Fractures are subhorizontal to 10° closely spaced undulating rough infilled (up to 10mm) with white silt locally with a veneer of dark grey marl and light brown clay. (CIRIA Grade C3)	58.90	-53.85	
	133C	58.70 - 60.20							60.20	-55.15	
	134Cs	60.00 - 60.20						Borehole completed at 60.20m.			

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:35 RSWG\DA EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH201**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 2

Start Date 29 June 2015 Easting 560202.1

Scale 1 : 50

End Date 3 July 2015 Northing 175846.7 Ground level 5.20mOD

Depth 9.70 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend					
29/06/15 1035hrs	X	0.00 - 1.50	1.50	C*140	100		Off-white and light grey silty very sandy subangular fine to coarse poorly cemented silt (CKD?), chalk, flint and concrete GRAVEL. (MADE GROUND)	0.35	4.85						
							Poorly cemented light brown mottled white sandy SILT. Material CKD. (MADE GROUND)	0.70	4.50						
	X	1.50 - 1.70					1.70 - 2.02	1.50	C*140		100		Reddish brown, light grey, yellowish brown, black and white very sandy subangular fine to coarse brick, concrete, sandstone and clinker GRAVEL with a high brick cobble content. Rare fragments (up to 160mm) of ceramic, glass, metal and plastic. (MADE GROUND)	1.20	4.00
													COBBLES and BOULDERS of reddish brown brickwork. Gravel is angular and subangular fine to coarse brick. Frequent wood fragments. (MADE GROUND)	1.60	3.60
	1C	1.70 - 2.20					1.70 - 2.20	1.50	C*140		100		MADE GROUND comprising grey CONCRETE.	1.70	3.50
													Very dense grey with black and dark blue specks slightly sandy angular to subrounded fine to coarse flint, brick and poorly cemented CKD GRAVEL. (MADE GROUND) 2.00m: Flint cobble.	2.20	3.00
	2X	2.20 - 2.70					2.20 - 2.70	1.50	Vo 0.0		100		Very dense well cemented dark brown with black specks slightly sandy angular and subrounded fine to coarse flint, clinker and poorly cemented CKD GRAVEL. (MADE GROUND)	2.70	2.50
													3.05 - 3.25m: 2mm fibrous material. 3.10 - 3.25m: Dark brown mottled light brown clay. 3.70 - 4.05m: Clay matrix.	2.70	2.50
	3D*	2.40 - 2.50					2.40 - 2.50	1.50	Vo 0.0		100		Off-white gravelly COBBLES of strongly cemented silt with rare clinker. Material CKD. (MADE GROUND)	4.05	1.15
													Medium dense light brown with white and black specks sandy angular to subrounded fine to coarse flint, red brick and poorly cemented CKD GRAVEL with low flint cobble content. (MADE GROUND) 4.90 - 5.60m: Brown sandy silt CKD matrix.	4.45	0.75
	4D	2.50 - 2.60					2.50 - 2.60	1.50	Vo 0.0		100		Loose poorly cemented greyish brown with white specks slightly sandy SILT. Material CKD. (MADE GROUND)	5.60	-0.40
													Stiff dark brown mottled bluish grey slightly sandy SILT with a strong organic odour. (REWORKED ALLUVIUM?) 7.20m: Orange fibrous material.	6.50	-1.30
	5X	2.70 - 3.15					2.70 - 3.15	1.50	C 95		100		Loose poorly cemented greyish brown with white specks slightly sandy SILT. Material CKD. (MADE GROUND)	6.50	-1.30
													Stiff dark brown mottled bluish grey slightly sandy SILT with a strong organic odour. (REWORKED ALLUVIUM?) 7.20m: Orange fibrous material.	7.70	-2.50
	6D*	2.90 - 3.00					2.90 - 3.00	1.50	Vo 0.0		100		Stiff dark brown mottled bluish grey slightly sandy SILT with a strong organic odour. (REWORKED ALLUVIUM?) 7.20m: Orange fibrous material.	7.70	-2.50
													Continued Next Page	{8.00}	
	7D	3.00 - 3.10					3.00 - 3.10	1.50	Vo 0.0		100		Continued Next Page	{8.00}	
													Continued Next Page	{8.00}	
	8D*	3.50 - 3.60					3.50 - 3.60	1.50	Vo 0.0		100		Continued Next Page	{8.00}	
													Continued Next Page	{8.00}	
9D	3.60 - 3.70	3.60 - 3.70	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
10X	3.70 - 4.11	3.70 - 4.05	1.50	C 115	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
11C	4.05 - 4.45	4.05 - 4.45	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
12D*	4.45 - 4.55	4.45 - 4.55	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
13X	4.45 - 4.70	4.45 - 4.70	1.50	C 11	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
14D	4.55 - 4.65	4.55 - 4.65	1.50	C 11	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
15X	4.70 - 5.15	4.70 - 5.15	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
16D*	5.05 - 5.15	5.05 - 5.15	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
17D	5.15 - 5.25	5.15 - 5.25	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
18X	5.70 - 6.15	5.70 - 6.15	1.50	C 7	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
19D*	5.70 - 6.70	5.70 - 6.70	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
20D	5.80 - 5.90	5.80 - 5.90	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
21D*	6.50 - 6.60	6.50 - 6.60	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
22D	6.60 - 6.70	6.60 - 6.70	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
23UT	6.70 - 7.15	6.70 - 7.15	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
24X	6.70 - 7.70	6.70 - 7.70	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
25D	7.15 - 7.30	7.15 - 7.30	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
26D*	7.20 - 7.30	7.20 - 7.30	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
27D	7.30 - 7.40	7.30 - 7.40	1.50	Vo 0.0	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
28D	7.70 - 8.15	7.70 - 8.15	1.50	S 22	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							
29X	7.70 - 8.70	7.70 - 8.70	1.50	S 22	100		Continued Next Page	{8.00}							
							Continued Next Page	{8.00}							

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:38 RS/AT RE

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Dynamic sampled (128mm) 0.00-1.70m (through previously excavated machine dug trial pit (TP201), 2.20-4.05m and 4.45-9.70m. Waterflush rotary core drilled (146mm) 1.70-2.20m and 4.05-4.45m.  
 CASING: 168mm diam to 9.70m.  
 BACKFILL: On completion, borehole backfilled with bentonite cement grout (2:1 mix) 9.70-7.00m and bentonite pellets 7.00-6.50m. A slotted standpipe (50mm) with geosock was installed to 6.00m, granular response zone 6.50-1.40m, bentonite seal 1.40-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Borehole installed on 03/07/2015. Downhole magnetometry for UXO risk mitigation undertaken 0.00-9.70m. Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			



# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH201**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 2

Start Date 29 June 2015 Easting 560202.1

Scale 1 : 50

End Date 3 July 2015 Northing 175846.7 Ground level 5.20mOD

Depth 9.70 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
30/06/15 1145hrs 3.57m	30D*	8.15 - 8.25	8.70	Vo 0.0			Loose dark blue with white specks and rare grey staining angular to subrounded fine to coarse flint GRAVEL with low flint cobble content. (RIVER TERRACE DEPOSITS)	9.70	-4.50	
	31D	8.25 - 8.35		S 9						
	32D	8.70 - 9.15								
	33X	8.70 - 9.70								
	34D*	9.20 - 9.30		Vo 0.0			8.90m: Coarse gravel sized pocket of light brown fine sand.			
	35D	9.30 - 9.40								
		9.70 - 10.15	9.70	S 9			Borehole completed at 9.70m.			

{18.00}

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:38 RS/AT RE

water strike (m) casing (m) rose to (m) time to rise (m) remarks  
Groundwater not encountered prior to use of water flush.



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH202**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 4

Start Date 9 June 2015 Easting 560333.2

Scale 1 : 50

End Date 17 June 2015 Northing 175813.1 Ground level 4.25mOD

Depth 32.00 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend	
09/06/15 0730hrs	1B	0.30						Grass over soft light grey sandy clayey SILT with rare subangular fine to coarse sandstone gravel and rare rootlets (up to 1mm). Material Cement Kiln Dust (CKD). (MADE GROUND)				
	2D*	0.30		Vo 0.0					0.45	3.80		
	3D*	0.50		Vo 0.0					0.80	3.45		
	4B	0.50						Soft light grey and white sandy gravelly clayey SILT. Gravel is subangular and subrounded fine and medium flint and sandstone. Material Cement Kiln Dust (CKD). (MADE GROUND)				
	5B	1.00							1.30	2.95		
	7UT	1.00 - 1.20		Nil								
	6D*	1.00		Vo 0.0								
	8D	1.20 - 1.65		Nil	S 4							
	9B	1.30 - 1.50						Soft and firm grey slightly sandy gravelly clayey SILT. Gravel is subangular to well rounded fine and medium flint and sandstone. Material Cement Kiln Dust (CKD). (MADE GROUND)				
	10D*	1.50		Vo 0.0								
	11B	2.00 - 2.20										
	12D*	2.00		Vo 0.0								
	13UT	2.20 - 2.60		Nil					Loose light brown mottled white and grey slightly sandy slightly gravelly SILT. Gravel is angular and subangular fine to coarse flint and rare chalk. Material Cement Kiln Dust (CKD). (MADE GROUND)			
	14D*	2.50		Vo 0.0								
	15D	2.60							1.80 - 2.20m: With frequent cobble sized pockets of very soft brown slightly sandy slightly gravelly clay. Gravel is angular and subangular fine and medium flint and Cement Kiln Dust (CKD).			
	16B	3.00 - 3.20										
	17D*	3.00		Vo 0.0								
	18D	3.20 - 3.65		3.00	S 4							
	19D*	3.50		Vo 0.0						3.70	0.55	
20B	3.70 - 4.00							Grey, greenish grey and light brown sandy subangular locally angular fine to coarse mudstone, flint and vitreous clinker GRAVEL with a medium cobble content. Cobbles are flint and vitreous material. Rare wood fragments (up to 20mm). (MADE GROUND)				
09/06/15 1730hrs 1.10m	21D*	4.00		Vo 0.0								
10/06/15 0730hrs 2.00m	22D*	4.50		Vo 0.0					4.90	-0.65		
	24D*	5.00		Vo 0.0				Locally poorly cemented light brown sandy SILT. Material Cement Kiln Dust (CKD). (MADE GROUND)				
	23B	5.00 - 5.20										
	25D	5.20 - 5.65	5.20	S 1								
	27D*	6.00		Vo 0.0								
	26B	6.00 - 6.20										
	28UT	6.20 - 6.60	6.20									
	29D	6.60							7.00	-2.75		
	30B	7.00 - 7.20										
	31D*	7.00 7.20 - 7.65	7.00	Vo 1.5 S 1				Very loose light grey mottled orangish brown and black sandy slightly gravelly SILT with frequent fine gravel sized fibrous organic material. Gravel is subangular fine and medium sandstone. Material Cement Kiln Dust (CKD). (MADE GROUND)				
Continued Next Page									{8.00}			

EQUIPMENT: Light cable percussive (shell and auger) rig and Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (300mm) 1.20-9.00m and (200mm) 9.00-21.00m. Dynamic sampled (128mm) 21.00-29.00m. Waterflush rotary cored (146mm) 29.00-32.00m.  
 CASING: 300mm diam to 9.00m, sacrificial 250mm diam HDPE to 9.00m. Cement:bentonite (3:1 mix) grout 9.00-5.00m and bentonite pellets 5.00-0.00m. 300mm diam casing withdrawn. 200mm diam to 21.00m and 168mm diam to 29.50m.  
 BACKFILL: On 17/06/2015, borehole backfilled with bentonite pellets 32.00-31.50m. A slotted standpipe (50mm) with geosock was installed to 31.00m, granular response zone 31.50-20.50m, bentonite seal 20.50-0.50m, granular surround 0.50-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-32.00m. Permeability test undertaken 23.00-24.00m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.  
 EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
3.20	1.50	3.20	20				

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH202**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 4

Start Date 9 June 2015 Easting 560333.2

Scale 1 : 50

End Date 17 June 2015 Northing 175813.1 Ground level 4.25mOD

Depth 32.00 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
10/06/15 1730hrs 0.60m	32B	8.00 - 8.20	7.00	Vo 1.4				Soft grey alluvium (Driller's description). (ALLUVIUM)	8.20	-3.95	
	33D*	8.10							8.60	-4.35	
11/06/15 0730hrs 0.60m	34UT	8.20 - 8.60									
	35D	8.60						Spongy brown fibrous PEAT. (PEAT)			
	36B	8.70 - 9.00									
	37D*	9.00			Vo 0.0						
	38D	9.20 - 9.65	9.20		S 2						
	39B	9.50 - 9.60									
	40B	10.00 - 10.20									
	41D*	10.00			Vo 0.0						
	42UT	10.20 - 10.60	10.20								
	43D*	10.50			Vo 0.0				10.60	-6.35	
	44B	10.60 - 10.80						Very soft grey mottled brown silty CLAY with rare partly decomposed fibrous organic material (up to 5mm). (ALLUVIUM (PEAT))			
	45B	11.30 - 11.50									
	46D	11.50 - 11.95	11.00		S 2						
	47D*	11.50			Vo 0.0						
	48D*	12.50			Vo 0.0						
	49B	12.80 - 13.00									
	50UT	13.00 - 13.45	13.00								
	51D	13.45						13.50 - 14.30m: Light grey mottled brown.			
52D*	13.50			Vo 0.0							
53B	14.00 - 14.20										
54D*	14.20			Vo 0.0				14.30	-10.05		
55B	14.30 - 14.50						Spongy brown and black fibrous PEAT with frequent pockets (up to 30mm) of soft brown silty clay. (PEAT)				
56D	14.50 - 14.95	13.50		S 6							
57B	15.50 - 15.70										
58D*	15.50			Vo 0.0			Soft grey mottled brown silty CLAY with frequent partly decomposed fibrous organic material (up to 15mm). (ALLUVIUM (PEAT))				
59UT	16.00 - 16.45	16.00									
60D	16.45										
61B	16.50 - 16.70						16.50 - 17.50m: Rare wood fragments (up to 40mm).				
62D*	16.50			Vo 0.0							
63B	17.30 - 17.50										
64D	17.50 - 17.95	13.50		S 8			17.30 - 17.50m: Rare subangular fine to coarse flint gravel. 17.50 - 18.00m: Rare wood fragments (up to 80mm).				
65D*	17.50			Vo 0.0							
66B	17.70 - 18.00										
Continued Next Page									{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:40 TP/RS/DA Eie/EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks
17.50	13.50	11.92	20	



CONTRACT  
**30766**

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**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH202**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 4

Start Date 9 June 2015 Easting 560333.2

Scale 1 : 50

End Date 17 June 2015 Northing 175813.1 Ground level 4.25mOD

Depth 32.00 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
11/06/15 1730hrs 2.10m	67D*	18.00		Vo 0.0				Loose greyish brown locally light grey slightly silty sandy GRAVEL. Gravel is subangular and subrounded fine to coarse flint and quartzite. (RIVER TERRACE DEPOSITS)	18.10	-13.85	
	68B	18.40 - 18.60									
	69B	18.80 - 20.00									
12/06/15 0730hrs 3.30m		19.00 - 19.45	19.00	C 8				19.70 - 20.00m: Driller notes gravel of chalk.	20.00	-15.75	
	70D*	19.80		Vo 0.0							
12/06/15 0900hrs 6.70m	71D	20.50 - 20.95	20.50	S 4				CHALK recovered as white silty subangular fine to coarse gravel.	21.00	-16.75	
	72B	21.00									
15/06/15 1500hrs 4.24m	73X	21.00 - 22.50	21.00					Structureless CHALK composed of slightly sandy silty subangular and subrounded fine to coarse GRAVEL with medium subangular and subrounded cobble content. Clasts are very weak low and medium density white with frequent wisps of light grey marl. Rare angular to rounded coarse flint gravel. Matrix is white. (Probably CIRIA Grade Dc)			
	74D*	21.60 - 21.70		Vo 0.0							
	75D	21.70 - 21.80									
15/06/15 1715hrs 6.80m		22.50 - 22.95	22.50	S 8				22.50m: Cobble sized rinded black nodular flint.			
	76X	22.50 - 24.00									
	77D*	23.10 - 23.20		Vo 0.0							
15/06/15 1715hrs 6.80m	78D	23.20 - 23.30						23.35m: Cobble sized rinded black nodular flint, recovered non-intact.			
	79D*	23.80 - 23.90		Vo 0.0							
16/06/15 0820hrs 3.59m	80D	23.90 - 24.00						25.75 - 25.80m: Cobble sized rinded black nodular flint, recovered non-intact.			
	81X	24.00 - 25.50	24.00	S 15							
16/06/15 0820hrs 3.59m	82Xs	25.00						27.70 - 28.50m: Low subangular chalk cobble content.			
	83D*	25.00 - 25.10		Vo 0.0							
	84D	25.10 - 25.20									
	85U	25.50 - 25.95	25.50								
	87X	25.50 - 27.00									
	86D	25.95 - 26.00									
	88D*	26.30 - 26.40		Vo 0.0							
	89D	26.40 - 26.50									
	90Xs	26.95									
	91D	27.00 - 27.45	27.00	S 10							
92X	27.00 - 28.50										
	93D	27.70 - 27.80									

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{28.00}

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:40 TP/RS/DA Eie/EC

water strike (m) casing (m) rose to (m) time to rise (m) remarks



CONTRACT  
**30766**

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**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH202**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 4 of 4

Start Date 9 June 2015 Easting 560333.2

Scale 1 : 50

End Date 17 June 2015 Northing 175813.1 Ground level 4.25mOD

Depth 32.00 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
16/06/15 1545hrs 3.28m	94D 95Xs 96D 97X	28.40 - 28.50 28.45 28.50 - 28.95 28.50 - 29.00	28.50	S 55				27.90 - 28.00m: Cobble sized rinded black nodular flint, recovered non-intact.  28.70 - 28.80m: Stained yellowish orange.  29.00 - 29.15m: Frequent orange staining on matrix.	29.15	-24.90	
	98C	29.00 - 30.50	28.50		100 91 35		NI 140 270	Very weak and weak high density white CHALK. Fractures are subhorizontal to 25° and 55° to subvertical closely to medium spaced undulating smooth infilled with white fine and medium gravel sized chalk and white silt locally stained orange and dark brown. (CIRIA Grade C4) 29.35m: Flint band (30mm), recovered non-intact. 30.00 - 30.00m: Cobble sized black nodular flint.			
	99Cs	29.75 - 30.00									
	100C	30.50 - 32.00	29.50		100 66 52			30.60 - 30.75m: Cobble sized rinded black nodular flint, recovered non-intact. 30.80 - 31.00m: Frequent black and brown specks on fracture surface. 31.20m: Tabular seam of calcite (5x70mm). 31.40 - 31.60m: Rinded black nodular flint, recovered non-intact.			
								31.80 - 31.85m: Fine to coarse gravel sized nodular flint. Veneer of light grey marl on fracture surfaces.	32.00	-27.75	
								Borehole completed at 32.00m.			
										{38.00}	

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:40 TPIRS/DA Eie/EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH203**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 5

Start Date 25 June 2015 Easting 560370.3

Scale 1 : 50

End Date 3 July 2015 Northing 175261.8 Ground level 3.80mOD

Depth 40.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 0730hrs	1B	0.30						Grey slightly silty sandy angular and subangular fine to coarse flint, cement (possible cement kiln dust) and concrete GRAVEL. Rare wood fragments (up to 5x20x40mm) and rare 1mm diam x 30mm metal wire fragments. (MADE GROUND)  Driller reports concrete slab. (MADE GROUND)  Loose brown, yellowish brown and grey slightly sandy clayey subangular and subrounded fine to coarse brick, concrete and flint GRAVEL. Rare rootlets (up to 2mm diam), rare cloth rag fragments (up to 1x20x20mm) and rare wood fragments (up to 5x20x50mm). (MADE GROUND)  Soft slightly sandy gravelly CLAY with a medium cobble content. Gravel is subangular fine to coarse brick and concrete. Cobbles are subangular brick and concrete. (MADE GROUND)  Soft grey mottled reddish brown and brown slightly sandy slightly gravelly silty CLAY. Gravel is angular and subangular fine to coarse chalk and flint. Rare subangular fine to coarse gravel sized fragments of brick and concrete. (MADE GROUND)  Very soft greyish brown mottled black silty CLAY with a slight organic/hydrocarbon odour?  Very soft grey CLAY with a slight organic odour. (ALLUVIUM)  Firm light grey mottled off-white slightly sandy gravelly CLAY with low subangular flint cobble content. Gravel is subangular fine to coarse chalk and flint. (ALLUVIUM)			
	2D*	0.30		Vo 0.0			0.60		3.20		
	3B	0.50					0.80		3.00		
	4D*	0.50		Vo 0.0							
	5B	1.00 - 1.20									
	6D*	1.00		Vo 0.5							
			1.20 - 1.65	1.20	C 8						
	7B	2.00 - 2.20									
	8D*	2.00		Vo 0.7					2.40	1.40	
			2.20 - 2.65	2.20	C 6						
	9B	2.40 - 2.60									
	25/06/15 1730hrs Dry	10B	3.00 - 3.20							3.00	0.80
11D*		3.00		Vo 0.5							
12D		3.20 - 3.65		S 5				3.80	0.00		
13B		4.00 - 4.20									
14D*		4.00		Vo 1.0				4.20	-0.40		
15UT		4.20 - 4.50									
26/06/15 0730hrs Dry		16D	4.50								
		17B	5.00 - 5.20								
		18D*	5.00		Vo 0.6						
		19D	5.20 - 5.65		S 25				5.40	-1.60	
		20B	6.00 - 6.20								
		21D*	6.00		Vo 0.4						
	22D	6.20 - 6.65		S 29							
	23B	6.50 - 6.70									
	24D*	6.50		Vo 0.5							
	25D	7.20 - 7.65		S 32							
	26B	8.00 - 8.20									

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{8.00}

EQUIPMENT: Light cable percussive (shell and auger) rig and Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-0.60m and 0.80-1.20m. Cable percussion (300mm) 0.60-0.80m, 1.20-4.50m and (150mm) 4.50-13.50m. Dynamic sampled (128mm) 13.50-22.70m. Waterflush rotary core drilled (146mm) 22.70-40.20m.  
 CASING: 300mm diam to 4.50m, 150mm diam to 13.50m, 168mm diam to 22.70m.  
 BACKFILL: On completion, borehole backfilled with bentonite cement grout (2:1 mix) 40.65-12.10m and bentonite pellets 12.10-11.50m. A slotted standpipe (50mm) with geosock was installed to 11.40m, granular response zone 11.50-8.70m, bentonite seal 8.70-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Hole advanced by chiselling 0.60-0.80m (1hr). Borehole installed on 03/07/2015. Downhole magnetometry for UXO risk mitigation undertaken 0.00-13.50m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks	AGS	CONTRACT <b>30766</b>	CHECKED <b>EC</b>
8.00	7.20	6.40	20	Fast inflow.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH203**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 5

Start Date 25 June 2015 Easting 560370.3

Scale 1 : 50

End Date 3 July 2015 Northing 175261.8 Ground level 3.80mOD

Depth 40.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	27D*	8.00 - 8.65	8.20	Vo 0.4 C 33					8.70	-4.90	
	28B 29D*	9.00 - 9.20 9.00 - 9.65	9.00	Vo 0.5 C 19				Medium dense off-white and light grey silty sandy angular and subangular fine to coarse chalk and flint GRAVEL. (RIVER TERRACE DEPOSITS)			
	30B 31D*	10.00 - 10.20 10.00 - 10.65	10.00	Vo 0.5 C 15							
	32B 33D*	11.00 - 11.20 11.00		Vo 0.3				11.00 - 11.60m: Medium cobble content. Cobbles are subangular flint.	11.60	-7.80	
	34B 35D*	11.60 - 11.80 11.60		Vo 0.1				11.60 - 11.80m: High cobble content. Cobbles are subangular flint.			
		12.00 - 12.45	12.00	C 4				CHALK recovered as loose off-white subangular fine to coarse gravel sized fragments.			
	36B 37D*	13.00 - 13.20 13.00		Vo 0.0							
		13.50 - 13.95	13.50	S 5					13.50	-9.70	
26/06/15 1730hrs 3.40m	38X	13.50 - 14.00						Structureless CHALK composed of white locally stained orange slightly sandy gravelly SILT. Gravel is angular to subrounded fine to coarse extremely and very weak medium density white chalk. (Probably CIRIA Grade Dm)			
30/06/15 1455hrs 3.01m	40D*	14.00 - 14.30		Vo 0.0				13.50 - 14.10m: Frequent coarse gravel sized pockets of fine sand.			
	41Xs 42Xs	14.35 14.40						14.35 - 14.45m: Cobbles of white chalk (up to 50x105x110mm).			
	43D*	15.30 - 15.40		Vo 0.0				15.00 - 15.15m: Rare angular fine and medium flint gravel.			
	44D 45X	15.50 - 15.95 15.50 - 17.00	15.50	S 12				15.70m: Rare angular medium flint gravel.			
	46D*	16.20 - 16.30		Vo 0.0				16.60m: Cobble sized rinded black nodular flint.			
	47Xs 48D 49X	16.70 17.00 - 17.45 17.00 - 18.50	16.00 17.00	S 15				17.00m: Cobble sized rinded black nodular flint.			
	50D*	17.20 - 17.30		Vo 0.0				17.75 - 18.10m: Rare subangular coarse flint gravel.			

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{18.00}

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:43 RS/AT RE

water strike (m) casing (m) rose to (m) time to rise (m) remarks



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH203**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 5

Start Date 25 June 2015 Easting 560370.3

Scale 1 : 50

End Date 3 July 2015 Northing 175261.8 Ground level 3.80mOD

Depth 40.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
30/06/15 1840hrs 2.86m	51Xs 52D 53X	18.20 - 18.30 18.50 - 18.95 18.50 - 20.00	18.50	S 12				18.20 - 18.30m: Cobble of white rarely stained orange chalk (95x95x120mm).	19.40	-15.60	
01/07/15 0810hrs 2.76m							18.75 - 18.85m: Rare angular fine flint gravel. 19.10 - 19.25m: Pocket of fine and medium chalk and flint gravel.				
	54D 55X	20.00 - 20.45 20.00 - 21.50	18.50	S 18				Structureless CHALK composed of white slightly sandy slightly gravelly SILT. Gravel is subangular fine and medium rarely coarse extremely weak low and medium density white chalk. (Probably CIRIA Grade Dm) 20.10 - 20.20m: Gravelly.	22.70	-18.90	
							21.15m: Cobble sized rinded black nodular flint. 21.25m: 3mm subhorizontal orange staining. 21.55m: Cobble sized rinded black nodular flint. 21.80 - 21.90m: Rare subangular coarse flint gravel. 22.00 - 22.50m: Rare yellow staining.				
	57D 58C	22.70 - 23.15 22.70 - 24.20	22.70	S 33	100 38 0	NI 150 190		22.55m: 5mm subhorizontal light grey marl lense. 22.60 - 22.70m: Gravelly.	25.15	-21.35	
	59Cs 60C	24.00 24.20 - 25.70	22.70		100 50 39		24.00m: Cobble sized rinded black nodular flint.				
	61Cs 62D 63C 64Cs 65Cs	25.45 - 25.70 25.70 - 26.06 25.70 - 27.20 25.75 25.80	22.70	S*146	96 63 47	NI 170 360		Extremely weak and very weak low and medium density white with rare black specks locally yellow stained CHALK with frequent closely and medium spaced wisps of light grey marl. Fractures are subhorizontal to 20° closely and medium spaced planar and undulating rough infilled (up to 2mm) with white silt. Rare angular fine to coarse flint gravel and low flint cobble content. (CIRIA Grade B2 and B3)			
	66Cs 67Cs	26.70 26.75 - 27.10									
	68C	27.20 - 28.70	22.70		95 48 40						

Continued Next Page

{28.00}

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:43 RS/AT RE

water strike (m) casing (m) rose to (m) time to rise (m) remarks



CONTRACT  
**30766**

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**EC**



# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH203**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 4 of 5

Start Date 25 June 2015 Easting 560370.3

Scale 1 : 50

End Date 3 July 2015 Northing 175261.8 Ground level 3.80mOD

Depth 40.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	69Cs	27.90 - 28.15									
	70Cs	28.50									
	71D	28.70 - 29.15	22.70	S 32	100 69 69						
	72C	28.70 - 30.20									
	73Cs	29.50 - 29.75									
	74Cs	29.80									
	75C	30.20 - 31.60	22.70		95 43 33						
	76Cs	30.60						30.60m: Cobble sized rinded black nodular flint. 30.70 - 30.90m: Subvertical undulating clean fracture.			
	77Cs	30.95 - 31.30									
	78Cs	31.30									
	79D	31.60 - 32.05	22.70	S 64	100 53 48						
	80C	31.60 - 33.10									
	81Cs	32.30				NI 190 310		Very weak medium density off-white with rare black specks CHALK. Fractures are subhorizontal to 10° closely rarely medium spaced planar rough with a veneer of white silt and light grey marl. Rare angular to subrounded fine to coarse flint gravel. (CIRIA Grade C3 and C2)	32.05	-28.25	
	82Cs	32.50 - 32.80									
01/07/15 1830hrs 2.76m	83C	33.10 - 34.60	22.70		100 64 48						
02/07/15 0810hrs 2.76m	84Cs	33.40									
	85Cs	33.45 - 33.65									
	86Cs	34.30									
	87D	34.60 - 35.05	22.70	S 42	97 33 24	NI 140 220		Very weak low and medium density white with rare black specks locally stained orange CHALK. Fractures are subhorizontal closely rarely medium spaced planar and undulating smooth and rough infilled (up to 2mm) with white silt. Low medium spaced flint cobble content recovered non-intact. (CIRIA Grade C3 and C2)	34.60	-30.80	
	88C	34.60 - 36.10									
	89Cs	35.15									
	90Cs	35.70 - 35.85									
	91Cs	36.00									
	92C	36.10 - 37.20	22.70		91 37 30						
	93Cs	36.20									
	94Cs	36.75 - 37.00									
	95D	37.20 - 37.62	22.70	S*111	100 43 39						
	96C	37.20 - 38.70									
	97Cs	37.80				NI 170 230		Very weak to weak medium to high density white with rare black specks locally stained yellow CHALK with rare	37.55	-33.75	
								Continued Next Page	{38.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:43 RS/AT RE

water strike (m) casing (m) rose to (m) time to rise (m) remarks



CONTRACT  
**30766**

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**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH203**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 5 of 5

Start Date 25 June 2015 Easting 560370.3

Scale 1 : 50

End Date 3 July 2015 Northing 175261.8 Ground level 3.80mOD

Depth 40.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
02/07/15 1345hrs 2.74m	98Cs	38.10 - 38.35						closely to medium spaced wisps of light grey marl. Fractures are subhorizontal to 20° very closely to medium spaced undulating rough with veneer of white silt. Rare angular to subrounded fine to coarse flint gravel and low medium spaced flint cobble content recovered non-intact. (CIRIA Grade C3 and C2)			
	99C	38.70 - 39.70	22.70		97 30 0						
	100Cs	39.40									
	101C	39.70 - 40.20	22.70		100 20 13						
	102Cs	39.80 - 40.00									
	103Cs	40.05									
	104D	40.20 - 40.65	22.70	S 100				40.65	-36.85		
								Borehole completed at 40.65m.			

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:43 RS/AT RE

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH204**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 3

Start Date 23 June 2015 Easting 560198.5

Scale 1 : 50

End Date 26 June 2015 Northing 175256.3 Ground level 3.95mOD

Depth 20.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
23/06/15 0730hrs	1D*	0.20		Vo 0.4			Brown and grey clayey sandy subangular to rounded fine to coarse flint, brick and concrete GRAVEL. (MADE GROUND) 0.20 - 1.20m: Rare fine fibrous textile fragments (up to 1x15x15mm). Grey and brown sandy angular and subangular fine to coarse limestone GRAVEL. (MADE GROUND) Dense grey and greyish brown slightly sandy clayey angular and subangular fine to coarse concrete, brick and flint GRAVEL. (MADE GROUND) Soft and firm dark brown mottled grey and black slightly sandy slightly gravelly silty CLAY with a low cobble content. Gravel is angular and subangular fine and medium flint and chalk. Cobbles are angular and subangular flint. (ALLUVIUM) Soft brownish grey peaty CLAY with a slight organic odour. (ALLUVIUM (PEAT))	0.80	3.15	
	2B	0.30				0.90		3.05		
	3D*	0.40								
	4B	0.50								
	5B	1.00 - 1.20								
	6D*	1.00 1.20 - 1.65	1.00	Vo 0.8 C 48				2.30	1.65	
	7B	2.00 - 2.20								
	8D*	2.00 2.20 - 2.65	2.00	Vo 0.6 C 7				3.30	0.65	
	9D*	2.60			Vo 0.6					
	10B	3.00 - 3.30			Vo 0.5					
	11D*	3.00 3.20 - 3.65	3.20	C 7						
23/06/15 1730hrs Dry	12UT	3.30 - 3.75	3.30							
	13B	3.30 - 3.40								
	14D*	3.30		Vo 0.6						
	24/06/15 0730hrs Dry	15D	3.75							
		16B	4.00 - 4.20							
	17D*	4.00		Vo 0.0						
	18D	4.20 - 4.65	4.00	S 5						
	19B	5.00 - 5.20								
	20UT	5.20 - 5.65	5.20							
	21D*	5.00		Vo 0.0						
22D	5.65									
23B	6.00 - 6.20									
24D*	6.00		Vo 0.1							
25D	6.20 - 6.65	6.20	S 4							
26D*	6.70		Vo 0.1							
27B	7.00 - 7.20									
28D*	7.00 7.20 - 7.65	7.20	Vo 0.1 C 20							
							6.00 - 6.70m: Rare wood fragments 5x30x30mm. 6.20 - 7.30m: Sandy.			
							Very soft becoming soft brownish grey and light grey slightly sandy gravelly CLAY with a medium cobble content. Gravel is angular and subangular fine to coarse chalk and flint. Cobbles are angular and subangular flint.	7.30	-3.35	
							Continued Next Page	{8.00}		

EQUIPMENT: Light cable percussive (shell and auger) rig and Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Cable percussion (300mm) 1.20-4.00m and (200mm) 4.00-13.50m, Dynamic sampled (128mm) 13.50-20.10m.  
 CASING: 300mm diam to 4.00m, 250mm diam HDPE sacrificial grouted in to 4.00m (300mm diam withdrawn), 250mm diam to 13.50m, 168mm diam to 18.00m.  
 BACKFILL: On completion, borehole backfilled with bentonite pellets 20.10-12.20m. A slotted standpipe (50mm) with geosock was installed to 12.00m, granular response zone 12.20-6.80m, bentonite seal 6.80-0.40m, granular surround 0.40-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Bentonite seal for aquifer protection installed 3.00-4.00m prior to reduction in casing diameter. Downhole magnetometry for UXO risk mitigation undertaken 0.00-13.50m. Falling head permeability test carried out in borehole 14.00-15.00m. Borehole installed on 26/06/2015. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.  
 EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks	AGS	CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH204**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 3

Start Date 23 June 2015 Easting 560198.5

Scale 1 : 50

End Date 26 June 2015 Northing 175256.3 Ground level 3.95mOD

Depth 20.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
	29B	8.00 - 8.20					(RIVER TERRACE DEPOSITS)			
		8.20 - 8.65	8.20	C 17						
	30B	9.00 - 9.20					9.00 - 10.00m: Tending to clayey sandy gravel with a high cobble content			
	31D*	9.00	9.20	Vo 0.1						
		9.20 - 9.65		C 5						
	32UT	10.00 - 10.45	10.00							
	33B	10.00 - 10.20								
	34D*	10.00		Vo 0.0						
	35D	10.45								
	36B	11.00 - 11.20								
	37D*	11.00		Vo 0.0						
	38D	11.50 - 11.95	11.50	S 5						
	39B	11.80 - 12.00					CHALK recovered as light grey and off white, sandy subangular fine to coarse GRAVEL with medium cobble content.	11.80	-7.85	
	40D*	11.80		Vo 0.0						
	41B	12.00 - 12.20		Vo 0.0			CHALK recovered as off-white locally stained yellow silty subangular fine to coarse chalk GRAVEL.	12.20	-8.25	
	42D*	12.00								
24/06/15 1730hrs 5.40m	43B	13.00 - 13.20								
	44D*	13.00		Vo 0.4						
	45D	13.50 - 13.95	13.50	S 6				13.50	-9.55	
25/06/15 1220hrs 3.09m	46X	13.50 - 15.00					Structureless CHALK composed of off-white slightly gravelly slightly sandy SILT. Gravel is angular to subrounded fine to coarse extremely and very weak low density white with rare brown and black specks chalk. (Probably CIRIA Grade Dm)			
	47D*	13.50 - 13.60		Vo 0.0			14.30 - 14.45m: Gravelly. 14.40m: Cobble of white chalk (65x75x75mm). 14.60 - 14.70m: Yellow stained.			
	48D*	13.90 - 14.00		Vo 0.0						
	49Xs	14.40								
	50D	15.00 - 15.45	15.00	S 3			15.40 - 15.70m: Gravelly. 15.60 - 15.95m: Grey mottled. 15.65 - 15.70m: Coarse gravel sized pocket of soft orangish brown clay.	15.95	-12.00	
	51X	15.00 - 16.50								
	52D*	15.15 - 15.25		Vo 0.0						
	53D*	16.20 - 16.30		Vo 0.0			Structureless CHALK composed of cream with orange staining slightly sandy gravelly SILT. Gravel is angular and subangular fine to coarse very weak low and medium density cream with rare black specks chalk, rarely angular medium flint. (Probably CIRIA Grade Dm)			
	54D	16.50 - 16.95	16.50	S 12			16.40 - 16.75m: Medium spaced cobbles of chalk.			
	55X	16.50 - 18.00								
	56Xs	17.55								
	57Xs	17.65								
	58Xs	17.70								
	59D*	17.80 - 17.90		Vo 0.0				17.80	-13.85	
	60D	18.00 - 18.45	18.00	S 14						
							Continued Next Page	{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:45 WG/AT RE

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH204**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 3

Start Date 23 June 2015 Easting 560198.5

Scale 1 : 50

End Date 26 June 2015 Northing 175256.3 Ground level 3.95mOD

Depth 20.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1740hrs 2.86m	61X	18.00 - 19.50					CHALK recovered as off-white with rare yellow staining slightly sandy gravelly SILT. Gravel is angular to subrounded fine to coarse very weak medium density white with rare black specks chalk, rarely subangular fine and medium flint. (Probably CIRIA Grade Dc)			
	62D*	18.90 - 19.00		Vo 0.0						
	63D	19.50 - 19.95	18.00	S 7			19.30m: Cobble sized rinded black nodular flint.			
	64X	19.50 - 20.10								
	65Xs	19.90					19.95m: Cobble of white chalk (90x90x105mm). 19.95 - 20.10m: Slightly gravelly.	20.10	-16.15	
							Borehole completed at 20.10m.			

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:45 WG/AT RE

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH501**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 3

Start Date 18 June 2015 Easting 560342.9

Scale 1 : 50

End Date 23 June 2015 Northing 174836.3 Ground level 13.05mOD

Depth 20.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
18/06/15 1400hrs	1B	0.30 - 0.40						Firm dark grey mottled white slightly sandy gravelly SILT. Gravel is subangular to rounded fine to coarse flint, chalk sandstone and crystalline. (MADE GROUND)	1.20	11.85	
	2D*	0.30 - 0.40		Vo 0.0							
	3B	0.50 - 0.70									
	4D*	0.50 - 0.70		Vo 0.0							
	5B	1.00 - 1.20									
	6D*	1.00 - 1.20		Vo 0.0							
	7D	1.20 - 1.65		Nil	S 7						
	8X	1.20 - 2.20									
	9D*	1.60 - 1.70			Vo 0.1						
	10D	1.70 - 1.80									
	11D	2.20 - 2.65		Nil	S 9						
	12X	2.20 - 3.20									
	13D*	2.50 - 2.60			Vo 0.2						
	14D	2.60 - 2.70									
	15D*	3.00 - 3.10			Vo 0.4						
	16D	3.10 - 3.20									
	17D	3.20 - 3.65		Nil	S 7						
	18X	3.20 - 4.20									
18/06/15 1730hrs 0.00m	19D*	3.50 - 3.60		Vo 0.7			3.15m: Medium gravel sized pocket of brownish grey fine sand.	7.20	5.85		
	20D	3.60 - 3.70		Vo 0.9			3.45 - 3.65m: Frequent pockets (up to 20mm) of light grey and brownish grey sandy silt.				
	21D*	4.00 - 4.10									
	22D	4.10 - 4.20		Nil	S 15						
	23D	4.20 - 4.65									
	24X	4.20 - 5.20									
	25D*	4.70 - 4.80			Vo 1.5						
	26D	4.80 - 4.90			Vo 1.8						
	27D*	5.00 - 5.10									
	28D	5.10 - 5.20		4.20	S 13		5.10 - 5.20m: Cobble sized black flint, recovered non-intact.				
	29D	5.20 - 5.65									
	30X	5.20 - 6.20					5.40 - 5.55m: Frequent medium and coarse gravel sized pockets of light grey sandy silt.				
19/06/15 0800hrs 1.76m	31D*	5.50 - 5.60		Vo 2.4			5.60 - 5.80m: Non-intact, recovered as fine to coarse gravel sized angular black and brown flint. Drilling disturbed.	7.20	5.85		
	32D	5.60 - 5.70		Vo 1.5							
	33D*	6.00 - 6.10									
	34D	6.10 - 6.20		6.20	S 14						
	35D	6.20 - 6.65									
	36X	6.20 - 7.20									
	37D*	6.80 - 6.90			Vo 2.3						
	38D	6.90 - 7.00									
	39D	7.20 - 7.65		7.20	S 26						
	40X	7.20 - 8.20									
	41D*	7.70			Vo 2.8						
	42D	7.80 - 7.90					Firm grey and white mottled orangish brown slightly sandy gravelly clayey SILT with frequent fine to coarse gravel sized pockets of black ash, rare rootlets (up to 3mm diam) and rare wood fragments (up to 45mm). Gravel is subangular to rounded fine to coarse flint, chalk, coal,				

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-4.20m and (113mm) 4.20-17.70m and 17.90-18.50m. Waterflush rotary core drilled (116mm) 17.70-17.90m and 18.50-20.00m.  
 CASING: 140mm diam to 17.00m.  
 BACKFILL: On 23/06/2015, borehole backfilled with bentonite pellets 20.45-19.50m. A slotted standpipe (50mm) with geosock was installed to 19.00m, granular response zone 19.50-12.50m, bentonite seal 12.50-0.40m, gravel 0.40-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-15.70m.  
 Chalk grade based on CIRIA C574 (2002).

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		<b>CONTRACT</b> <b>30766</b>	<b>CHECKED</b> <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH501**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 3

Start Date 18 June 2015 Easting 560342.9

Scale 1 : 50

End Date 23 June 2015 Northing 174836.3 Ground level 13.05mOD

Depth 20.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	43D 44X	8.20 - 8.65 8.20 - 9.20	7.20	S 11				brick, rarely ceramic. (MADE GROUND) 7.70m: Metal fragment (2mmx15mmx20mm).	8.25	4.80	
	45D* 46D	8.50 8.60 - 8.70		Vo 0.0				Soft light grey and greyish white locally brown slightly sandy gravelly silty CLAY. Gravel is angular to rounded fine to coarse flint, chalk and brick. (MADE GROUND)	9.00	4.05	
	47D 48X	9.20 - 9.65 9.20 - 10.20	7.20	S 2				Very loose brown and orangish brown sandy very clayey subangular to rounded fine to coarse flint and chalk GRAVEL. (MADE GROUND)	9.95	3.10	
	49D* 50D	9.60 - 9.70 9.70 - 9.80		Vo 0.0				9.15 - 9.20m: Gravel is angular and subangular coarse concrete.			
	51D* 52D	10.00 - 10.10 10.10 - 10.20		Vo 0.0							
	53D 54X	10.20 - 10.65 10.20 - 11.70	7.20	S 1				Very soft grey with frequent black specks slightly sandy gravelly clayey SILT. Gravel is subangular to rounded fine to coarse flint. (MADE GROUND)	10.70	2.35	
	55D* 56D	10.40 - 10.50 10.50 - 10.60		Vo 0.0							
	57D* 58D	11.50 - 11.60 11.60 - 11.70		Vo 0.0							
	59D 60X	11.70 - 12.15 11.70 - 13.00	11.70	S 6				11.45 - 11.90m: Becoming clayey. Very sandy.	11.90	1.15	
	61D*	12.30		Vo 0.0				Structureless CHALK composed of white slightly sandy gravelly SILT. Gravel is angular to subrounded fine to coarse extremely weak medium density white with rare orange staining chalk. (Probably CIRIA Grade Dm)			
19/06/15 1435hrs 11.22m	62D* 63D	12.80 13.00 - 13.45	13.00	Vo 0.0 S 44							
22/06/15 1120hrs 11.47m	64X	13.00 - 14.50						13.10 - 13.25m: Non-intact, recovered as angular and subangular fine to coarse gravel sized rinded black nodular flint. Drilling disturbed.			
	65D*	13.50		Vo 0.0				13.70 - 13.80m: Frequent orange staining.			
	66D* 67D 68X	14.40 14.50 - 14.95 14.50 - 15.70	13.00	Vo 0.0 S 26							
	69D* 70D 71X	15.40 - 15.50 15.70 - 16.15 15.70 - 17.00	13.00	Vo 0.0 S 42				14.95 - 15.05m: Frequent orange staining. 15.20 - 15.30m: Cobble sized rinded black flint, recovered non-intact.	15.25	-2.20	
	72D*	16.40 - 16.50		Vo 0.0				Structureless CHALK composed of white slightly sandy silty angular to subrounded fine to coarse GRAVEL. Clasts are extremely weak low and medium density white with rare orange staining chalk. (Probably CIRIA Grade Dc)			
	73D 74X	17.00 - 17.45 17.00 - 17.70	15.70	S 41							
	C	17.70 - 17.90	17.00		0						

Continued Next Page

{18.00}

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:47 TP/DA Ele/JH

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT	CHECKED
				Groundwater not encountered prior to use of water flush.		30766	EC

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH501**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 3

Start Date 18 June 2015 Easting 560342.9

Scale 1 : 50

End Date 23 June 2015 Northing 174836.3 Ground level 13.05mOD

Depth 20.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
22/06/15 1720hrs 11.71m	75X	17.90 - 18.50						17.70 - 17.90m: Core run attempted through flint. No recovery.	18.20	-5.15	
	76C 77Cs 78Cs 79Cs	18.50 - 20.00 18.60 18.65 18.70 - 18.90	17.00		95 56 38			Extremely weak low and medium density white with rare orange staining CHALK. Fractures are subhorizontal to 10° extremely closely spaced planar smooth infilled (up to 4mm) with white silt. (CIRIA Grade C5)	18.50	-5.45	
23/06/15 0815hrs 11.65m	80Cs 81Cs 82D	19.85 19.95 20.00 - 20.45	17.00	S 81				Extremely weak low and medium density white with rare black specks and rare orange staining CHALK. Fractures are subhorizontal to 10° and 70° to subvertical to 20° closely spaced undulating smooth infilled (up to 8mm) with subangular to subrounded fine and medium white chalk gravel and white silt. (CIRIA Grade C3) 18.50 - 18.60m: Cobble sized rinded black nodular flint, recovered non-intact. 18.90 - 19.00m: Frequent orange and brownish orange staining. 18.95 - 19.00m: Cobble sized rinded black nodular flint, recovered non-intact. 19.60 - 19.65m: Cobble sized rinded black nodular flint, recovered non-intact.	20.45	-7.40	
									Borehole completed at 20.45m.		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:47 TP\DA Ele/JH

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			



# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH502**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 3

Start Date 23 June 2015 Easting 560135.4

Scale 1 : 50

End Date 25 June 2015 Northing 174870.5 Ground level 13.25mOD

Depth 20.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
23/06/15 1500hrs	1B	0.30 - 0.50						Firm dark grey mottled white slightly sandy gravelly SILT. Gravel is subangular to rounded fine to coarse flint, chalk, sandstone and crystalline. (MADE GROUND)			
	2D*	0.30 - 0.50									
	3B	0.50 - 0.80									
	4D*	0.50 - 0.80									
	5B	1.00 - 1.20									
	6D*	1.00 - 1.20									
	7D	1.20 - 1.65	Nil	S 41			1.00m: Grey plastic sheet.		1.20	12.05	
	8X	1.20 - 1.75					Off-white slightly gravelly sandy SILT. Gravel is subrounded fine white rarely angular fine and medium flint and chalk. (MADE GROUND)		1.50	11.75	
	9D*	1.60 - 1.70			Vo 0.0						
	10D	1.70 - 1.80					Light greyish brown gravelly SILT. Gravel is angular and subangular fine to coarse grey and white chalk and rare angular to subangular fine and medium flint. Frequent fine to coarse gravel sized pockets of dark brown and grey clay. (MADE GROUND)		1.80	11.45	
	11X	1.80 - 2.20									
	12D*	2.10 - 2.20	Nil	S 15							
	13D	2.20 - 2.65					White and cream slightly gravelly sandy SILT. Gravel is subangular and subrounded fine white chalk and angular to rounded fine to coarse flint. (MADE GROUND)				
	14X	2.20 - 3.20									
	15D*	2.70 - 2.80			Vo 0.3		3.90 - 4.05m: Dark greyish brown very gravelly fine to coarse sand. Gravel is subangular to rounded fine and medium flint and crystalline.				
	16D	2.80 - 2.90									
	17D	3.20 - 3.65	Nil	S 5			4.10m: Rounded medium red flint gravel. 4.30 - 4.40m: Frequent pockets (up to 10mm) of brownish grey gravelly sand. Gravel is angular and subangular fine brick.				
	18X	3.20 - 4.20									
	19D*	3.20 - 3.30			Vo 0.3		5.25m: 45mm pocket of light brown gravelly silt. Gravel is angular fine brick.		5.50	7.75	
	20D*	3.70 - 3.80									
	21D	3.80 - 3.90			Vo 0.8		White slightly gravelly slightly sandy SILT. Gravel is subangular to rounded fine and medium white locally stained orange chalk and rare angular to subrounded fine to coarse flint. (MADE GROUND)				
	22D	4.20 - 4.65	Nil	S 8							
	23X	4.20 - 5.20					7.35 - 7.40m: Frequent grey clay. 7.40 - 7.50m: Subangular chalk cobble (65x90x90mm). 7.50 - 7.60m: Grey clay. Cement odour.				
24D*	4.70 - 4.80			Vo 0.0							
25D	4.80 - 4.90					Continued Next Page	{8.00}				
26D	5.20 - 5.65	Nil	S 25								
27X	5.20 - 6.20										
28D*	5.60 - 5.70			Vo 0.4							
29D	5.70 - 5.80										
30D*	6.00 - 6.10			Vo 0.0							
31D	6.20 - 6.65	Nil	S 6								
32X	6.20 - 7.20										
33D	6.60 - 6.70										
34D*	6.60 - 6.70			Vo 0.2							
23/06/15 1825hrs Dry	35D*	7.00 - 7.20		Vo 0.2							
	36D	7.20 - 7.65	Nil	S 7							
24/06/15 0810hrs Dry	37X	7.20 - 8.20									
	38D*	7.70 - 7.80		Vo 0.0							
	39D	7.80 - 7.90									

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-1.80m and (113mm) 1.80-15.50m. Waterflush rotary cored (116mm) 15.50-20.00m.  
 CASING: 140mm diam to 17.00m.  
 BACKFILL: On completion, borehole backfilled with bentonite pellets 20.45-19.50m. A slotted standpipe (50mm) with geosock was installed to 19.00m, granular response zone 19.50-11.00m, bentonite seal 11.00-0.45, gravel drain 0.45-0.35m, concrete and raised helmet cover 0.35-0.00m.  
 Borehole installed on 24/06/15 and 25/06/2015.  
 REMARKS: Driller notes loss of flush 15.50-20.00m. Downhole magnetometry for UXO risk mitigation undertaken 0.00-16.80m. No anomalies encountered.  
 Chalk grade based on CIRIA C574 (2002).  
 EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		<b>CONTRACT</b> <b>30766</b>	<b>CHECKED</b> <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH502**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 3

Start Date 23 June 2015 Easting 560135.4

Scale 1 : 50

End Date 25 June 2015 Northing 174870.5 Ground level 13.25mOD

Depth 20.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	40D 41X	8.20 - 8.65 8.20 - 9.20	Nil	S 7				Red, yellow and black (ashy) sandy angular and subangular fine to coarse brick and cement GRAVEL with low subangular brick cobble content. (MADE GROUND)			
	42D*	8.60 - 8.70		Vo 0.4					8.70	4.55	
	43D	8.70 - 8.80									
	44D*	9.00 - 9.10		Vo 0.4							
	45D	9.10 - 9.20									
	46D	9.20 - 9.65	Nil	S 1				Brown, grey and red (ashy) silty gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse brick, coal and rare black slate and chalk. (MADE GROUND)	9.15	4.10	
	47X	9.20 - 10.20									
	48D*	9.40 - 9.50		Vo 0.5				9.05 - 9.15m: Angular brick and mortar (20x60x110mm).			
	49D	9.50 - 9.60						Very soft brown slightly gravelly sandy CLAY. Gravel is subangular to rounded fine to coarse flint. (MADE GROUND)			
	50D 51X	10.20 - 10.65 10.20 - 11.70	10.20	S 9							
	52D*	10.70 - 10.80		Vo 0.3					10.70	2.55	
	53D	10.80 - 10.90							10.90	2.35	
	54D*	11.30 - 11.40		Vo 0.3				White and brown silty very sandy angular to subrounded fine to coarse flint GRAVEL. (MADE GROUND)	11.15	2.10	
	55D	11.40 - 11.50						10.75m: Coarse gravel of purple stained quartzite.			
	56D	11.70 - 12.15	11.70	S 28				Reddish brown and pinkish brown very clayey angular to subrounded fine to coarse flint and rare chalk GRAVEL with rare medium gravel sized pockets of black (ashy) silt. (MADE GROUND)	11.75	1.50	
	57X	11.70 - 13.20						11.15 - 11.25m: Subrounded coarse flint gravel. Soft light and dark brown slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and chalk. (MADE GROUND)			
	58D*	12.30 - 12.40		Vo 0.5				11.60 - 11.70m: Nodular flint cobble.			
	59D*	13.10 - 13.20		Vo 0.7				Structureless CHALK composed of slightly sandy silty angular and subangular fine to coarse GRAVEL. Clasts are extremely weak and very weak medium density white. Matrix is white with rare orange staining. (Probably CIRIA Grade Dc)			
	60D	13.20 - 13.65	13.20	S 30				12.10 - 12.20m: Frequent orange staining.			
	61X	13.20 - 14.50						12.45 - 12.55m: Cobble sized black flint, recovered non-intact.			
	62D*	14.10 - 14.20		Vo 0.8				13.60 - 13.70m: Cobble sized rinded black nodular flint, recovered non intact.			
	63D 64X	14.50 - 14.95 14.50 - 15.50	13.20	S 62				Extremely weak medium density white CHALK. Fractures are subhorizontal extremely closely spaced, planar smooth infilled (up to 5mm) with white silt. (Probably CIRIA Grade C5)	14.50	-1.25	
	65D*	15.10 - 15.20		Vo 0.6				15.00m: Rare orangish brown staining.			
	66C	15.50 - 17.00	15.50		81 50 47	NI 190 290		15.45 - 15.50m: Frequent orange staining.	15.75	-2.50	
	67D 68C	17.00 - 17.45 17.00 - 18.50	17.00 17.00	S 40	91 30 12			Very weak low to medium density white with rare orange staining CHALK. Fractures are subhorizontal to 10° closely and medium spaced undulating smooth infilled with white silt rarely stained orange with rare black specks (up to 6mm) . (CIRIA Grade C3 to C2)			
								16.50 - 16.60m: Cobble sized rinded black nodular flint, recovered non intact.			
								17.00 - 18.50m: Locally drilling disturbed.			
Continued Next Page									{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:49 DA EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks	AGS	CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH502**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 3

Start Date 23 June 2015 Easting 560135.4

Scale 1 : 50

End Date 25 June 2015 Northing 174870.5 Ground level 13.25mOD

Depth 20.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
24/06/15 1640hrs 12.01m	69Cs	18.20 - 18.45	17.00	S 49	100 75 75			18.40 - 19.00m: Fractures subhorizontal to 20° undulating smooth.	20.45	-7.20	
	70C	18.50 - 20.00						18.85m: Fracture surface stained orange with rare black specks.			
	71Cs	19.20 - 19.45						19.50 - 20.00m: Frequent 70° to subvertical fractures undulating smooth infilled (up to 8mm) with angular and subangular fine and medium chalk gravel and silt.			
	72D	20.00 - 20.45						19.95 - 20.00m: Grey marl seam locally stained orange.			
								Borehole completed at 20.45m.			

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:50 DA EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH703**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 2

Start Date 9 June 2015 Easting 561557.1

Scale 1 : 50

End Date 10 June 2015 Northing 173367.0 Ground level 7.05mOD

Depth 10.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
09/06/15 1445hrs	1B	0.30 - 0.40					Grass over firm dark grey sandy gravelly clayey SILT with frequent rootlets (up to 1mm diam). Gravel is subangular and subrounded fine to coarse sandstone. (MADE GROUND)	0.80	6.25	
	2D*	0.30 - 0.40		Vo 0.0						
	3B	0.50 - 0.70					Dark brown mottled white sandy gravelly SILT. Gravel is subangular and subrounded fine to coarse chalk and flint. (MADE GROUND)	1.20	5.85	
	4D*	0.50 - 0.70		Vo 0.0						
	5B	1.00 - 1.20					Soft to firm yellowish brown slightly sandy slightly gravelly CLAY with rare rootlets (up to 2mm diam) and rare wood fragments (up to 5mm diam). Gravel is angular to subrounded fine to coarse chalk and flint. (MADE GROUND)	1.60	5.45	
	6D*	1.00 - 1.20		Vo 0.0						
	7D	1.20 - 1.65		Nil	S 8		Soft to firm yellowish brown slighty gravelly sandy CLAY with rare rootlets (up to 2mm diam). Gravel is angular to rounded fine to coarse chalk and flint. (MADE GROUND) 1.60 - 2.20m: Mottled brown. 2.45 - 2.60m: Band of angular to subrounded fine and medium chalk gravel. 2.70 - 2.85m: Decomposed roots (up to 7mm diam).	3.25	3.80	
	8X	1.20 - 2.20								
	9D	1.20 - 1.30					Medium dense light yellowish brown slightly sandy to sandy SILT. (RIVER TERRACE DEPOSITS) 3.50 - 3.60m: Clayey.			
	10D*	1.20 - 1.30								
	11D	1.90 - 2.10					3.90 - 4.05m: Band of subangular and subrounded fine and medium flint and chalk gravel. 4.10 - 4.20m: Clayey. 4.20 - 4.65m: Loose.			
	12D*	1.90 - 2.10								
	13D	2.20 - 2.65					4.90 - 5.00m: Clayey.			
	14X	2.20 - 3.20								
	15D	2.80 - 2.90					5.85 - 5.95m: Flint cobble 5.95 - 6.05m: Band of subangular and subrounded fine to coarse flint and chalk gravel.	6.05	1.00	
	16D*	2.80 - 2.90			Vo 0.0					
	17D	3.20 - 3.65		Nil	S 12		Dense dark grey slightly sandy angular to subrounded fine to coarse flint and rare chalk GRAVEL. (RIVER TERRACE DEPOSITS)	7.10	-0.05	
	18X	3.20 - 4.20								
	19D	3.80 - 3.90					Dense off-white locally grey mottled orangish brown slightly sandy gravelly SILT. Gravel is angular to subrounded fine to coarse chalk and flint. (RIVER TERRACE DEPOSITS)	7.80	-0.75	
	20D*	3.80 - 3.90			Vo 0.0					
	21D	4.20 - 4.65		Nil	S 7		Continued Next Page	{8.00}		
	22X	4.20 - 5.20								
	23D	4.70 - 4.80								
	24D*	4.80 - 4.90				Vo 0.0				
	25D	5.20 - 5.65		Nil	S 16					
	26X	5.20 - 6.20								
	27D	5.90 - 6.00								
	28D*	6.00 - 6.10		6.20	Vo 0.0	S 38				
	29D	6.20 - 6.65								
	30X	6.20 - 7.20								
	31D	6.90 - 7.00								
	32D*	7.00 - 7.10		7.20	Vo 0.0	S 42				
	33X	7.20 - 7.65								
	34D	7.65 - 7.75								
	35D*	7.75 - 7.85				Vo 0.0				

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-4.20m and (113mm) 4.20-10.20m.  
 CASING: 140mm diam to 10.20m.  
 BACKFILL: On completion, borehole backfilled with bentonite 10.20-9.50m. A slotted standpipe (50mm) with geosock was installed to 9.30m, granular response zone 9.50-7.00m, bentonite seal 7.00-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 Borehole installed on 10/06/2015.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-10.20m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

Geotechnical Engineering Ltd, Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:51 TP/AT ELE/EC

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH703**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 2

Start Date 9 June 2015 Easting 561557.1

Scale 1 : 50

End Date 10 June 2015 Northing 173367.0 Ground level 7.05mOD

Depth 10.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
09/06/15 1730hrs 4.64m	36X	8.20 - 8.65 8.20 - 9.20	8.20	S 11			Firm orangish brown mottled grey and white slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint. (RIVER TERRACE DEPOSITS) 8.20 - 9.20m: Limited Recovery.	8.85	-1.80	
	37X	9.20 - 9.65 9.20 - 10.20	9.20	S 4			Structureless CHALK composed of white slightly gravelly SILT. Gravel is subangular and subrounded fine to coarse very weak medium density white chalk, rarely angular fine and medium flint. (Probably CIRIA Grade Dm)			
	38D 39D*	9.60 - 9.70 9.70 - 9.80			Vo 0.0					
10/06/15 0830hrs 4.83m		10.20 - 10.65	10.20	S 8			Borehole completed at 10.20m.	10.20	-3.15	
								{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:51 TP/AT EL/EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH704**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 3

Start Date 17 June 2015 Easting 561641.4

Scale 1 : 50

End Date 19 June 2015 Northing 172996.5 Ground level 6.80mOD

Depth 20.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend	
17/06/15 1225hrs	1B	0.30 - 0.50					Firm dark brown slightly gravelly clayey SILT with rare rootlets (up to 1mm diam). Gravel is subangular to rounded fine and medium flint. (MADE GROUND)	1.20	5.60		
	2D*	0.30 - 0.50		Vo 0.0							
	3B	0.50 - 0.60									
	4D*	0.50 - 0.60		Vo 0.0							
	5B	1.00 - 1.20									
	6D*	1.00 - 1.20		Vo 0.0							
	7D	1.20 - 1.65		Nil	S 4						
	8X	1.20 - 2.20									
		9D*	1.80 - 1.90		Vo 0.0		Very loose brown slightly gravelly very clayey fine and medium SAND with rare rootlets (up to 1mm diam). Gravel is subangular to rounded fine and medium flint, rarely white chalk. (ALLUVIUM)	2.05	4.75		
		10D	1.90 - 2.00								
		11D	2.20 - 2.65		Nil	S 3					
		12X	2.20 - 3.20					Very soft brown slightly gravelly sandy CLAY. Gravel is subangular to rounded fine and medium flint, rarely white chalk. (ALLUVIUM)	2.90	3.90	
		13D*	2.60 - 2.70		Vo 0.0						
		14D	2.70 - 2.80					Soft light greyish brown and orangish brown slightly gravelly sandy CLAY with frequent black pockets (up to 4mm) and rare rootlets (up to 1mm diam). (ALLUVIUM)	4.25	2.55	
		15UT	3.20 - 3.65		Nil						
		17X	3.20 - 4.20								
		18D*	3.60 - 3.70		Vo 0.0						
		16D	3.65 - 3.80								
		19D	3.80 - 3.90					Soft greyish brown and dark purplish brown slightly gravelly organic CLAY with rare fine and medium gravel sized pockets of dark brown and black peat. Gravel is subangular and subrounded fine and medium flint, rarely white chalk. (ALLUVIUM)	4.90	1.90	
		20D	4.20 - 4.65		Nil	S 5					
		21X	4.20 - 5.20								
		22D*	4.50 - 4.60		Vo 0.0			4.75 - 4.90m: Very soft brown gravelly clay with frequent orange staining and frequent decomposed organic material. Gravel is subangular fine to coarse chalk.	5.70	1.10	
		23D	4.60 - 4.70								
		24X	5.20 - 5.65 5.20 - 6.20	5.20	S 4			Structureless CHALK composed of white and cream locally stained orange slightly gravelly SILT. Gravel is subrounded and rounded fine to coarse very weak medium and high density white with rare orange staining and rare brown specks chalk. (Probably CIRIA Grade Dm)			
		25D*	5.70 - 5.80		Vo 0.0						
		26D	5.80 - 5.90					5.10m: Coarse gravel sized rinded black nodular flint. 5.20 - 5.30m: Cobble sized rinded black flint, recovered non-intact.			
		27X	6.20 - 6.65 6.20 - 7.20	6.15	S 10						
		28D*	6.70 - 6.80		Vo 0.0			Structureless CHALK composed of white and light cream slightly sandy gravelly SILT. Gravel is subangular and subrounded fine to coarse extremely weak and very weak low and medium density white with rare orange staining and rare brown specks chalk. (Probably CIRIA Grade Dm)			
		29D	6.80 - 6.90								
		30D	7.20 - 7.65	7.20	S 8						
		31X	7.20 - 8.20					5.70m: Coarse gravel sized rinded black nodular flint. 5.75 - 6.20m: Frequent orange staining.			
		32D*	7.80 - 7.90		Vo 0.0						
		33D	7.90 - 8.00								

Continued Next Page

{8.00}

EQUIPMENT: Geotechnical Pioneer rig.

METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-5.20m and (113mm) 5.20-20.20m.

CASING: 140mm diam to 19.20m.

BACKFILL: On completion, borehole backfilled with cement:bentonite grout (2:1 mix) 20.65-5.30m and bentonite pellets 5.30-4.70m. A slotted standpipe (50mm) with geosock was installed to 4.60m, granular response zone 4.70-1.20m, bentonite seal 1.20-0.40m, gravel 0.40-0.30m, concrete and raised helmet cover 0.30-0.00m.

Borehole installed on 19/06/2015.

REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-11.70m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks
4.20	Nil	4.10	20	Water strike following run 3.20-4.20m.



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH704**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 3

Start Date 17 June 2015 Easting 561641.4

Scale 1 : 50

End Date 19 June 2015 Northing 172996.5 Ground level 6.80mOD

Depth 20.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend		
	34D	8.20 - 8.65	8.20	S 14			6.10 - 6.15m: Cobble sized rinded black flint, recovered non-intact.					
	35X	8.20 - 9.20					6.25m: Coarse gravel sized rinded black nodular flint.					
17/06/15 1805hrs 4.17m	36D*	9.00 - 9.10		Vo 0.0			7.75m: Coarse gravel sized rinded black nodular flint.					
	37D	9.10 - 9.20					8.05 - 8.15m: Subangular chalk cobble.					
	38D	9.20 - 9.65					9.20				S 14	8.20 - 8.25m: Coarse gravel sized rinded black nodular flint.
	39X	9.20 - 10.20										9.10 - 9.45m: Cobble sized rinded black nodular flint, recovered non-intact.
18/06/15 0830hrs 4.06m	40D*	9.80 - 9.90	10.20	S 8			9.75 - 9.95m: Localised orange staining.					
	41D	9.90 - 10.00					10.20 - 10.35m: Cobble sized rinded black flint, recovered non-intact.					
	42D	10.20 - 10.65					10.40 - 10.45m: Orange staining.					
	43X	10.20 - 11.70					10.80 - 10.95m: Cobble sized rinded black nodular flint, recovered non-intact.					
	44D*	11.00 - 11.10	10.20	S 6			10.80 - 11.35m: Frequent orange staining.	11.50	-4.70			
	45D	11.70 - 12.15					Structureless CHALK composed of slightly sandy silty angular to subrounded fine to coarse GRAVEL. Clasts are extremely weak and very weak medium density white with rare black and brown specks chalk. Matrix is white and cream. (Probably CIRIA Grade Dc)					
	46X	11.70 - 13.20					12.40m: Rare orange staining.					
	47D	12.40 - 12.50					12.60m: Subhorizontal band (5mm) of reddish brown silty clay.					
	48D	13.20 - 13.65	13.20	S 18			13.20 - 13.35m: Cobble sized rinded black flint, recovered non-intact.					
	49X	13.20 - 14.70					13.40 - 13.50m: Frequent lenses of reddish brown slightly sandy silty clay (up to 45mm).					
	50D	13.90 - 14.00	14.70	S 24			13.90 - 13.95m: Frequent pockets of reddish brown slightly sandy silty clay.	14.05	-7.25			
	51D	14.70 - 15.15					Structureless CHALK composed of white and locally cream slightly sandy gravelly SILT. Gravel is subangular and subrounded fine and medium white with rare black specks chalk. (Probably CIRIA Grade Dm)					
	52X	14.70 - 16.20	16.20	S 18			14.35m: Frequent subhorizontal orange staining (up to 2mm).					
	53Xs	15.60					14.45 - 14.50m: Frequent subhorizontal bands (up to 5mm) of brown and reddish brown slightly sandy silty clay.					
	54D	15.70 - 15.80					14.80 - 14.90m: Lens (15x40x90mm) of reddish orange slightly sandy silt.					
	55Xs	16.00					15.35 - 15.45m: Cobble sized rinded black nodular flint, recovered non-intact.					
	56D	16.20 - 16.65	16.20	S 18			Structureless CHALK composed of slightly sandy silty angular to subrounded fine to coarse GRAVEL with a low subangular cobble content. Clasts are extremely weak and very weak medium density white with rare black specks chalk. Matrix is white locally cream. (Probably CIRIA Grade Dc)	16.20	-9.40			
	57X	16.20 - 17.70					15.85 - 15.90m: Brown gravelly clay.					
	58D	16.90 - 17.00	17.70	S 27			16.10 - 16.20m: Rare orange staining.					
	59D	17.70 - 18.15					Structureless CHALK composed of white slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine and medium white with rare black specks chalk. (Probably					
	60X	17.70 - 19.20										

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{18.00}

water strike (m) casing (m) rose to (m) time to rise (m) remarks



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH704**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 3

Start Date 17 June 2015 Easting 561641.4

Scale 1 : 50

End Date 19 June 2015 Northing 172996.5 Ground level 6.80mOD

Depth 20.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend	
18/06/15 1420hrs 4.10m	61Xs	18.10					CIRIA Grade Dm)				
	62D	18.30 - 18.40					16.80 - 17.20m: Gravelly. 17.30 - 17.50m: Frequent orange staining. 18.30 - 18.35m: Cobble sized rinded black nodular flint, recovered non-intact. 18.50 - 18.60m: Gravel absent. Possibly drilling disturbed. 18.95m: Subhorizontal brown clay band (2mm). 19.10 - 19.20m: Rare orange staining.				
	63D	19.20 - 19.65	19.20	S 24				19.55 - 19.65m: Cobble sized rinded black flint, recovered non-intact.	19.70	-12.90	
	64X	19.20 - 20.20						Structureless CHALK composed of white slightly sandy gravelly SILT. Gravel is angular to subrounded fine to coarse extremely weak low and medium density white with rare black specks chalk. (Probably CIRIA Grade Dm)			
	65D	19.80 - 19.90						19.75 - 19.80m: Rare orange staining.			
	66D	20.20 - 20.65	19.20	S 21				Borehole completed at 20.65m.	20.65	-13.85	
								{28.00}			

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:53 TP\DA Eie\EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH705**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 3

Start Date 17 June 2015 Easting 561618.7

Scale 1 : 50

End Date 18 June 2015 Northing 172723.4 Ground level 5.60mOD

Depth 20.25 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend	
17/06/15 0830hrs	1B	0.30 - 0.40					Dark brown mottled grey gravelly clayey SILT. Gravel is subangular to well rounded fine to coarse flint, sandstone and brick. (MADE GROUND)	0.50	5.10		
	2D*	0.30 - 0.40		Vo 0.0							
	3B	0.50 - 0.70					0.50m: Geotextile membrane across pit.				
	4D*	0.50 - 0.70		Vo 0.0							
	5B	1.00 - 1.20					Firm light yellowish brown slightly sandy silty CLAY with rare subangular and subrounded fine and medium sandstone and flint gravel. (MADE GROUND)	1.20	4.40		
	6D*	1.00 - 1.20		Vo 0.0							
	7D	1.20 - 1.65		Nil	S 23		Medium dense dark grey, brown and white silty sandy angular to subrounded fine to coarse flint and rare chalk GRAVEL. (HEAD DEPOSITS)				
	8X	1.20 - 2.20									
	9D*	1.80 - 1.90			Vo 0.0		2.20 - 2.50m: Brown. Medium dense yellowish brown mottled light brown silty gravelly fine and medium SAND. Gravel is subangular to rounded fine to coarse flint and chalk. (HEAD DEPOSITS)	2.20	3.40		
	10D	1.90 - 2.00		Nil	S 16						
	11D	2.20 - 2.65									
	12X	2.20 - 3.20									
	13D*	2.90 - 3.00			Vo 0.0		Structureless CHALK composed of white mottled cream slightly sandy slightly gravelly SILT. Gravel is subangular to rounded fine to coarse extremely weak and very weak medium density with rare black specks chalk and rare angular coarse flint. (Probably CIRIA Grade Dm)	3.20	2.40		
	14D	3.00 - 3.10		Nil	S 14						
	15X	3.20 - 4.20									
	16D*	3.80 - 3.90			Vo 0.0		3.50m: Coarse gravel sized pocket of brown clay. 3.80m: 5mm subhorizontal band of brown clay.	4.20	1.40		
	17D	3.90 - 4.00									
							NO RECOVERY. Casing jammed over barrel during advancing.				
	18X	5.20 - 5.65 5.20 - 6.20		4.20	S 4		Structureless CHALK composed of white mottled cream with orange staining slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine to coarse very weak medium density white with rare black specks chalk and rare subangular medium flint. (Probably CIRIA Grade Dm)	5.20	0.40		
	19D*	5.90 - 6.00			Vo 0.0						
	20D	6.00 - 6.10			6.20	S 4	5.60 - 5.75m: Orange and yellow stained.				
	21X	6.20 - 6.65 6.20 - 7.20					5.70m: Coarse gravel sized pocket of brown clay. 6.20m: Cobble sized rinded black nodular flint.				
	22D*	6.80 - 6.90			Vo 0.0		6.65m: Coarse gravel sized pocket of brown clay.				
	23D	6.90 - 7.00			7.20	S 5					
	24X	7.20 - 7.65 7.20 - 8.20									
	25D*	7.80 - 7.90			Vo 0.0		7.55m: Coarse gravel sized pocket of brown clay.				
26D	7.90 - 8.00					7.80 - 8.20m: Gravelly.					
						Continued Next Page		{8.00}			

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-3.20m and (113mm) 3.20-19.80m.  
 CASING: 140mm diam to 19.80m.  
 BACKFILL: On completion, borehole backfilled with bentonite 20.25-19.50m. A slotted standpipe (50mm) with geosock was installed to 19.50m, granular response zone 19.50-3.70m, bentonite seal 3.70-0.30m, concrete and traffic rated cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-20.25m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH705**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 3

Start Date 17 June 2015 Easting 561618.7

Scale 1 : 50

End Date 18 June 2015 Northing 172723.4 Ground level 5.60mOD

Depth 20.25 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
	27X	8.20 - 8.65 8.20 - 9.20	8.20	S 7			7.90m: Orange stained. 8.20 - 9.20m: Limited Recovery (65%)	8.55	-2.95	
	28D* 29D	8.80 - 8.90 8.90 - 9.00		Vo 0.0			Structureless CHALK composed of white mottled cream with yellow staining slightly sandy slightly gravelly SILT. Gravel is subangular and subrounded fine and medium rarely coarse very weak medium density white with rare black specks chalk. (Probably CIRIA Grade Dm)			
	30X	9.20 - 9.65 9.20 - 10.20	9.20	S 12				8.65m: Coarse gravel sized pocket of brown clay. 8.80 - 8.95m: Closely spaced thin laminae of light brown clay.		
	31D	9.80 - 9.90					9.00 - 9.15m: Cobble sized rinded black nodular flint, recovered non-intact.			
	32X	10.20 - 10.65 10.20 - 11.70	10.20	S 10			9.60m: Cobble of chalk (60x65x80mm). 10.20 - 10.60m: Gravelly. 10.40 - 10.50m: Yellow stained.			
	33D	10.70 - 10.80						11.05	-5.45	
	34D 35X 36D	11.70 - 12.15 11.70 - 13.20 11.80 - 11.90	11.70	S 14			Structureless CHALK composed of slightly sandy silty angular to subrounded fine to coarse GRAVEL. Clasts are very weak and weak low and medium density white with rare black specks and orange and yellow staining chalk. Matrix is white stained yellow. (Probably CIRIA Grade Dc)			
	37D 38D 39X	13.00 - 13.10 13.20 - 13.65 13.20 - 14.70	13.20	S 12			11.10m: Cobble sized rinded black nodular flint. 11.50m: Cobble sized rinded black nodular flint, recovered non-intact.	12.80	-7.20	
	40D	13.80 - 13.90					Structureless CHALK composed of white with orange staining slightly sandy slightly gravelly SILT. Gravel is angular to subrounded fine to coarse weak medium density white with rare black specks chalk and rare subangular fine and medium flint. (Probably CIRIA Grade Dm)			
	41D 42X	14.70 - 15.15 14.70 - 16.20	14.70	S 17			13.25m: Coarse gravel sized pocket of light brown clay. 13.30m: Orange stained. 13.50 - 13.70m: Gravelly. 14.10 - 14.30m: Gravelly.			
	43D	15.20 - 15.30					15.00 - 15.10m: Gravelly. 15.30m: 2mm subhorizontal band of brown clay. 15.50m: Cobble sized rinded black nodular flint. 15.60 - 15.80m: Yellow stained.			
	44D 45X	16.20 - 16.65 16.20 - 17.70	16.20	S 23			16.10m: Orange stained. 16.30m: Coarse gravel sized pocket of orange staining.			
	46D	16.60 - 16.70					16.60 - 16.70m: Sandy. 16.80 - 17.20m: Gravelly.			
17/06/15 1800hrs 2.54m	47D	17.50 - 17.60								
18/06/15 0800hrs 2.46m	48D 49X	17.70 - 18.15 17.70 - 18.30	17.70	S 27			17.70 - 18.30m: Gravelly.			
							Continued Next Page	{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:55 TP/AT ELE/EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH705**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 3

Start Date 17 June 2015 Easting 561618.7

Scale 1 : 50

End Date 18 June 2015 Northing 172723.4 Ground level 5.60mOD

Depth 20.25 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
18/06/15 1000hrs 2.20m	50X	18.30 - 18.68 18.30 - 19.80	17.70	C 39			18.30 - 18.50m: Gravelly. 18.40m: Orange stained. 18.50 - 18.60m: Cobble sized rinded black nodular flint, recovered non-intact.	20.25	-14.65	
	51D	19.00 - 19.10					19.00 - 19.10m: Orange stained. 19.00 - 19.25m: Gravelly.			
	52D	19.80 - 20.25	19.80	S 21		19.50m: 2mm subvertical orange staining. 19.70m: Orange stained.				
							Borehole completed at 20.25m.	{28.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:55 TP/AT ELE/EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH706**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 4

Start Date 11 June 2015 Easting 561557.8

Scale 1 : 50

End Date 16 June 2015 Northing 172815.6 Ground level 9.15mOD

Depth 29.80 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
11/06/15 1500hrs	1B	0.30 - 0.40						Grass over soft dark brown sandy clayey SILT with rare rootlets (up to 2mm diam). (MADE GROUND)	0.05	9.10	
	2D*	0.30 - 0.40		Vo 0.0				Firm dark brown mottled light brown sandy clayey SILT with rare rootlets (up to 2mm diam) and rare subangular fine sandstone gravel. (MADE GROUND)	1.20	7.95	
	3B	0.50 - 0.70									
	4D*	0.50 - 0.70			Vo 0.0			Firm yellowish brown slightly gravelly slightly sandy silty CLAY with rare rootlets (up to 2mm diam). Gravel is subangular and subrounded fine and medium chalk. (RIVER TERRACE DEPOSITS)	1.95	7.20	
	5B	1.00 - 1.20									
	6D*	1.00 - 1.20			Vo 0.0			Medium dense yellowish brown with rare black specks slightly gravelly sandy SILT with rare rootlets (up to 2mm diam). Gravel is subangular fine chalk. (RIVER TERRACE DEPOSITS)	3.40	5.75	
	7D	1.20 - 1.65	Nil	S 9							
	8X	1.20 - 2.20						Stiff orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is subrounded fine chalk. (RIVER TERRACE DEPOSITS)	4.55	4.60	
	9D	1.40 - 1.50			Vo 0.0						
	10D*	1.40 - 1.50			Vo 0.0			4.55 - 5.05m: Gravel is fine and medium.	5.90 - 6.20m: Yellowish brown slightly gravelly silty fine and medium sand. Gravel is subangular and subrounded fine and medium flint and chalk.	6.40 - 6.55m: Grey mottled brown slightly gravelly fine and medium sand. Gravel is angular to subrounded fine and medium flint and chalk.	
	11D	2.00 - 2.10									
	12D*	2.00 - 2.10			Vo 0.0			Dense and medium dense dark grey, brown and white slightly silty slightly sandy subangular and subrounded fine to coarse flint and rare chalk GRAVEL with low flint cobble content. (RIVER TERRACE DEPOSITS)	8.00	{8.00}	
	13D	2.20 - 2.65	Nil	S 12							
	14X	2.20 - 3.20						Continued Next Page			
15D	2.80 - 2.90			Vo 0.0							
11/06/15 1730hrs Dry	16D*	2.80 - 2.90						Continued Next Page			
	17D	3.20 - 3.65	Nil	S 15							
12/06/15 0800hrs Dry	18X	3.20 - 4.20						Continued Next Page			
	19D	3.40 - 3.50									
	20D*	3.40 - 3.50			Vo 0.0			Continued Next Page			
	22D	4.20 - 4.65	Nil	S 17							
	23X	4.20 - 5.20						Continued Next Page			
	21D	4.20 - 4.30									
	24D*	4.30 - 4.40			Vo 0.0			Continued Next Page			
	25D	5.20 - 5.65	Nil	S 35							
	26X	5.20 - 6.20						Continued Next Page			
	27D	5.30 - 5.40									
	28D*	5.40 - 5.50			Vo 0.0			Continued Next Page			
	29D	6.00 - 6.10			Vo 0.0						
	30D*	6.00 - 6.10			Vo 0.0			Continued Next Page			
	31D	6.20 - 6.65	6.20	S 27							
32X	6.20 - 7.20						Continued Next Page				
33D	6.80 - 6.90			Vo 0.0							
34D*	6.90 - 7.00			Vo 0.0			Continued Next Page				
35D	7.20 - 7.65	7.20	S 27								
36X	7.20 - 8.20						Continued Next Page				
37D	8.00 - 8.10			Vo 0.0							
38D*	8.00 - 8.10			Vo 0.0			Continued Next Page				

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-3.20m and (113mm) 3.20-26.80m. Waterflush rotary core drilled (116mm) 26.80-29.80m.  
 CASING: 140mm diam to 26.60m.  
 BACKFILL: On completion, borehole backfilled with bentonite pellets 29.80-29.30m. A slotted standpipe (50mm) with geosock was installed to 29.30m, granular response zone 29.30-8.50m, bentonite seal 8.50-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-29.80m. Driller notes loss of flush 26.80-29.80m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH706**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 4

Start Date 11 June 2015 Easting 561557.8

Scale 1 : 50

End Date 16 June 2015 Northing 172815.6 Ground level 9.15mOD

Depth 29.80 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	39X	8.20 - 8.65 8.20 - 9.20	8.20	S 2				Structureless CHALK composed of cream mottled white slightly gravelly sandy SILT. Gravel is subangular and subrounded fine to coarse very weak medium density white with rare black specks chalk and rare angular to subrounded fine and medium flint. (Probably CIRIA Grade Dm)	8.25	0.90	
	40D 41D* 42D 43X	8.90 - 9.00 8.90 - 9.00 9.20 - 9.65 9.20 - 10.20	9.20	Vo 0.0 S 9							
	44D 45D* 46D 47X	10.00 - 10.10 10.00 - 10.10 10.20 - 10.65 10.20 - 11.70	10.20	Vo 0.0 S 13				9.55 - 9.70m: Closely spaced cobble sized rinded black nodular flints. Structureless CHALK composed of white locally stained orange and yellow slightly sandy slightly gravelly SILT. Gravel is subangular and subrounded fine to coarse extremely weak and very weak low and medium density white with rare black specks chalk and rare angular to subrounded fine to coarse flint. (Probably CIRIA Grade Dm)	9.95	-0.80	
	48D 49D*	10.70 - 10.80 10.80 - 10.90		Vo 0.0				10.30m: Cobble sized rinded black nodular flint, recovered non-intact.			
12/06/15 1300hrs 8.93m								11.05m: 20mm bivalve. 11.10m: Possible relict fracture infilled with up to 5mm light brown clay.			
15/06/15 1100hrs 6.24m	50X 51D 52D*	11.70 - 12.15 11.70 - 13.20 11.90 - 12.00 12.00 - 12.10	11.70	S 11 Vo 0.0				11.30 - 12.00m: Closely spaced cobble sized rinded black nodular flints.			
	53X 54D 55D*	13.20 - 13.65 13.20 - 14.70 13.30 - 13.40 13.40 - 13.50	13.20	S 8 Vo 0.0				13.70m: Cobble sized rinded black nodular flint.			
	56D 57X	14.30 - 14.40 14.70 - 15.15 14.70 - 16.20	14.70	S 15							
	58D	15.55 - 15.65						15.50 - 18.90m: Gravel is angular to subrounded.			
	59D 60X	16.20 - 16.65 16.20 - 17.70	16.20	S 12							
	61D	17.00 - 17.10						16.90m: Cobble sized rinded black nodular flint.			
	62D 63X	17.70 - 18.15 17.70 - 19.20	17.70	S 17				17.50 - 17.60m: Cobble sized rinded black nodular flint, recovered non-intact.			
Continued Next Page									{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:57 TP/AT ELE/EC

water strike (m) casing (m) rose to (m) time to rise (m) remarks  
Groundwater not encountered prior to use of water flush.

	<b>CONTRACT</b> <b>30766</b>	<b>CHECKED</b> <b>EC</b>
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH706**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 4

Start Date 11 June 2015 Easting 561557.8

Scale 1 : 50

End Date 16 June 2015 Northing 172815.6 Ground level 9.15mOD

Depth 29.80 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	64D	18.10 - 18.20						18.20m: Possible relict fracture infilled with up to 5mm light brown clay.	18.90	-9.75	
	65D 66X	19.20 - 19.65 19.20 - 20.70	19.20	S 21				Structureless CHALK composed of white locally stained orange, yellow and cream slightly gravelly sandy SILT. Gravel is subangular and subrounded fine to coarse very weak medium density white with rare black specks chalk and rare angular fine and medium flint. (Probably CIRIA Grade Dm)			
	67D	19.50 - 19.60									
	68D 69D 70X	20.50 - 20.60 20.70 - 21.15 20.70 - 22.20	20.70	S 30				20.05 - 20.50m: Light orange stained. 20.10 - 20.40m: Closely spaced cobble sized rinded black nodular flints.			
	71D	21.60 - 21.70						21.40m: Cobble sized rinded black nodular flint, recovered non-intact.			
15/06/15 1730hrs 6.59m	72D	22.20 - 22.65	22.20	S 60				22.20 - 22.50m: Cobble sized rinded black nodular flint, recovered non-intact.			
16/06/15 0800hrs 6.74m	73X	22.20 - 23.20									
	74D	22.70 - 22.80						23.00 - 23.25m: Gravelly.			
	75X	23.20 - 24.00									
	76D	23.60 - 23.70						23.65 - 24.00m: Gravelly.			
	77D 78X	24.00 - 24.45 24.00 - 25.50	24.00	S 45				24.10m: Cobble sized rinded black nodular flint.			
	79D	24.65 - 24.75						24.70 - 24.90m: Gravelly.			
	80D 81X	25.50 - 25.95 25.50 - 26.60	25.50	S 47				25.30 - 26.10m: Gravelly.	26.10	-16.95	
	82D	26.30 - 26.40						Structureless CHALK composed of slightly sandy silty subangular and subrounded fine to coarse GRAVEL with low subangular cobble content. Clasts are weak medium density white. Matrix is white. Very closely spaced bands of cobble sized rinded nodular flint. (Probably CIRIA Grade Dc)	26.80	-17.65	
	83X 84C	26.60 - 26.80 26.80 - 28.30	26.60		13 0 0			Limited recovery (13%) of rinded dark grey nodular FLINT, recovered non-intact. Core loss presumed to be chalk, not recovered due to flint jamming in core barrel.			
								Continued Next Page	{28.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:57 TP/AT ELE/EC

water strike (m) casing (m) rose to (m) time to rise (m) remarks  
Groundwater not encountered prior to use of water flush.



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH706**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 4 of 4

Start Date 11 June 2015 Easting 561557.8

Scale 1 : 50

End Date 16 June 2015 Northing 172815.6 Ground level 9.15mOD

Depth 29.80 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
16/06/15 1420hrs 6.24m	85C	28.30 - 28.75 28.30 - 29.80	26.60	S 25	83 35 15			Structureless CHALK composed of slightly sandy silty subangular and subrounded fine to coarse GRAVEL. Clasts are very weak and weak low and medium density white. Matrix is white. (CIRIA Grade Dc)	28.30	-19.15	
	86Cs	28.70 - 28.95							NI 115 230	Extremely weak and very weak medium density white with rare black specks CHALK. Fractures are 50-70° closely rarely medium spaced planar rough locally stained orange with veneer of white and yellow silt. (CIRIA Grade B3)	28.65
		29.80 - 30.25	26.60	S 27				28.75m: Cobble sized rinded black nodular flint, recovered non-intact. 29.25m: Cobble sized rinded black nodular flint, recovered non-intact. 29.35 - 29.55m: Orange stained.  Borehole completed at 29.80m.	29.80	-20.65	
									{38.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:57 TP/AT EL/EC

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH707**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 3

Start Date 10 June 2015 Easting 561428.9

Scale 1 : 50

End Date 11 June 2015 Northing 172862.1 Ground level 14.35mOD

Depth 20.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
10/06/15 1215hrs	1B	0.30 - 0.40					Grass over soft dark brown slightly gravelly sandy clayey SILT. Gravel is subangular to well rounded fine and medium sandstone, flint, crystalline, brick and tile. (MADE GROUND)	0.10	14.25	
	2D*	0.30 - 0.40		Vo 0.0						
	3B	0.50 - 0.70					Firm dark brown slightly gravelly sandy clayey SILT. Gravel is subangular to well rounded fine to coarse sandstone, flint, granite, tile and chalk. (MADE GROUND)	1.20	13.15	
	4D*	0.50 - 0.70		Vo 0.0						
	5B	1.00 - 1.20					Firm dark brown mottled brown slightly sandy slightly gravelly CLAY with rare rootlets (up to 2mm diam) and rare fine and medium gravel sized pockets of ash. Gravel is angular to subrounded fine to coarse chalk, flint, rare brick and concrete. (MADE GROUND) 1.55 - 1.65m: Cobble of concrete (115x115x115mm).	2.55	11.80	
	6D*	1.00 - 1.20		Vo 0.0						
	7D	1.20 - 1.65		Nil	S 10		2.20 - 2.55m: Soft.	3.70	10.65	
	8X	1.20 - 2.20								
	9D	1.30 - 1.45					Firm grey mottled dark grey gravelly CLAY with rare wood fragments (up to 5mm), rootlets (up to 2mm diam) and rare fine and medium gravel sized pockets of ash. Gravel is subangular and subrounded fine to coarse chalk, flint and brick. (MADE GROUND) 3.20 - 3.65m: Soft.	4.70	9.65	
	10D*	1.30 - 1.45		Vo 0.0						
	11D	1.85 - 1.95					Stiff dark brown mottled orangish brown and black slightly sandy slightly gravelly CLAY with rare roots (up to 20mm diam), rootlets (up to 2mm diam) and rare fine and medium gravel sized pockets of ash. Gravel is subangular and subrounded fine to coarse chalk and rare flint. (MADE GROUND)	7.70	6.65	
	12D*	1.85 - 1.95		Nil	S 4					
	13D	2.20 - 2.65					Firm brown slightly sandy slightly gravelly silty CLAY with rare roots (up to 5mm diam) and rootlets (up to 2mm diam). Gravel is subangular and subrounded fine and coarse chalk and flint. (MADE GROUND)	{8.00}		
	14X	2.20 - 3.20								
	15D	2.35 - 2.45					6.40 - 6.50m: Cobble of concrete (45x100x105mm).			
	16D*	2.35 - 2.45		Vo 0.0						
	17D	2.80 - 2.90					7.20 - 7.65m: Stiff.			
	18D*	2.90 - 3.00		Nil	S 4					
	19D	3.20 - 3.65					Continued Next Page			
	20X	3.20 - 4.20								
	21D	3.30 - 3.40								
	22D*	3.40 - 3.50		Vo 0.0						
	23D	3.85 - 3.95								
	24D*	3.85 - 3.95								
	25D	4.20 - 4.65		Nil	S 24					
	26X	4.20 - 5.20								
	27D	4.40 - 4.50								
	28D*	4.50 - 4.60		Vo 0.0						
	29D	5.00 - 5.10								
	30D*	5.10 - 5.20		Nil	S 8					
	31D	5.20 - 5.65								
	32X	5.20 - 6.20								
33D	5.60 - 5.70									
34D*	5.60 - 5.70		Vo 0.0							
35X	6.20 - 6.65		6.20	S 10						
36D	6.55 - 6.65									
37D*	6.55 - 6.65		Vo 0.0							
38D	7.20 - 7.65		7.20	S 17						
39X	7.20 - 8.20									
40D	8.00 - 8.10									
41D*	8.00 - 8.10		Vo 0.0							

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-4.20m and (113mm) 4.20-20.20m.  
 CASING: 140mm diam to 19.20m.  
 BACKFILL: On completion, borehole backfilled with bentonite pellets 20.20-19.50m. A slotted standpipe (50mm) with geosock was installed to 19.50m, granular response zone 19.50-10.50m, bentonite seal 10.50-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-20.20m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			



# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH707**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 3

Start Date 10 June 2015 Easting 561428.9

Scale 1 : 50

End Date 11 June 2015 Northing 172862.1 Ground level 14.35mOD

Depth 20.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend	
10/06/15 1800hrs 6.16m 11/06/15 0750hrs 9.60m	42D 43X	8.20 - 8.65 8.20 - 9.20	8.20	S 41			Dense (?) dark grey stained brown slightly silty subangular to rounded fine to coarse flint rarely chalk GRAVEL with rare fine gravel sized shell fragments.	8.40	5.95		
	44D 45D* 46D 47X	8.90 - 9.00 8.90 - 9.00 9.20 - 9.65 9.20 - 10.20	9.20	Vo 0.0 S 47			Firm brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine to coarse flint and chalk. (RIVER TERRACE DEPOSITS)	9.20	5.15		
	48D 49D*	9.70 - 9.80 9.70 - 9.80		Vo 0.0			Dense dark grey slightly silty subangular to rounded fine to coarse flint GRAVEL with rare fine gravel sized shell fragments. (RIVER TERRACE DEPOSITS)				
	50X	10.20 - 10.65 10.20 - 11.70	10.20	S 25				10.30	4.05		
	51D 52D*	10.70 - 10.80 10.80 - 10.90		Vo 0.0			Structureless CHALK composed of white slightly sandy slightly gravelly SILT. Gravel is subangular to rounded fine and medium white with frequent black specks chalk, rare subangular medium flint. (Probably CIRIA Grade Dm) 10.75 - 10.90m: Coarse gravel sized pocket of brown fine and medium sand.				
	53X 54D 55D*	11.70 - 12.15 11.70 - 13.20 11.90 - 12.00 11.90 - 12.00	11.70	S 3 Vo 0.0							
	56D 57D*	12.80 - 12.90 12.80 - 12.90		Vo 0.0							
	58UT 59X	13.20 - 13.70 13.20 - 14.70	13.20								
	60D 61D*	14.30 - 14.40 14.30 - 14.40		Vo 0.0							
	62X	14.70 - 15.15 14.70 - 16.20	14.70	S 11			13.60 - 14.20m: Orange stained. 13.80 - 13.90m: Coarse gravel sized pocket of brown fine and medium sand.	14.30	0.05		
	63D 64D*	15.20 - 15.30 15.20 - 15.30		Vo 0.0							
	65D	15.90 - 16.00					15.20m: Cobble sized flint. 15.70m: Cobble of chalk.				
	66UT 67X	16.20 - 16.70 16.20 - 17.70	16.20								
	68D	16.90 - 17.00									
	69X	17.70 - 18.15 17.70 - 19.20	17.70	S 21			16.90 - 17.10m: Slightly sandy silty gravel. 17.50m: Cobble sized flint.				
	Continued Next Page								{18.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:59 TP/AT ELE/CT

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks
				Groundwater not encountered prior to use of water flush.

	CONTRACT	CHECKED
	<b>30766</b>	<b>EC</b>

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH707**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 3

Start Date 10 June 2015 Easting 561428.9

Scale 1 : 50

End Date 11 June 2015 Northing 172862.1 Ground level 14.35mOD

Depth 20.20 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend
11/06/15 1415hrs 8.58m	70D	17.90 - 18.00	19.20	S 19			Structureless CHALK composed of slightly sandy silty angular to subrounded fine to coarse GRAVEL. Clasts are weak medium density white with orange staining. Matrix is white and light grey. (Probably CIRIA Grade Dc)	19.80	-5.45	
	71D	18.90 - 19.00								
	72D	19.20 - 19.65								
	73X	19.20 - 20.20								
	74D	19.90 - 20.00					20.20	-5.85		
								{28.00}		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:45:59 TP/AT ELE/CT

water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered prior to use of water flush.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH708**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 4

Start Date 10 June 2015 Easting 561299.3

Scale 1 : 50

End Date 15 June 2015 Northing 172747.4 Ground level 19.80mOD

Depth 29.95 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
10/06/15 1125hrs	1B	0.30 - 0.50						Grass over soft dark brown sandy clayey SILT. (MADE GROUND)	0.05	19.75	
	2D*	0.30 - 0.50		Vo 0.0							
	3B	0.50 - 0.70						Firm dark brown slightly sandy gravelly silty CLAY. Gravel is subangular to well rounded fine to coarse sandstone, flint, crystalline, tile and chalk. (MADE GROUND)	1.20	18.60	
	4D*	0.50 - 0.70		Vo 0.0							
	5B	1.00 - 1.20						Soft dark greyish brown locally stained red slightly sandy gravelly CLAY with rare fine and medium gravel sized pockets of light brown clayey fine to coarse sand. Gravel is angular to subrounded fine to coarse chalk and flint, rarely sandstone and ceramic. Organic odour. (MADE GROUND)	1.70	18.10	
	6D*	1.00 - 1.20		Vo 0.0							
	7D	1.20 - 1.65		Nil	S 8			1.65m: Pocket (50mm) of dark brown peaty clay.	3.40	16.40	
	8X	1.20 - 2.20									
	9D	1.35 - 1.45						Soft dark brown locally stained reddish brown slightly sandy gravelly organic CLAY. Gravel is angular to rounded fine to coarse chalk and flint and rare concrete and brick. Organic odour. (MADE GROUND)	4.70	15.10	
	10D*	1.35 - 1.45		Vo 0.0							
	11D	1.80 - 2.00						2.10 - 2.20m: Subangular concrete cobble.	5.90	13.90	
	12D*	1.80 - 2.00		Vo 0.0							
	13D	2.20 - 2.65		Nil	S 6			Medium dense brown slightly gravelly clayey fine SAND. Gravel is subangular and subrounded fine and medium sandstone and flint, rarely ceramic. (MADE GROUND)	6.50	13.30	
	14X	2.20 - 3.20									
	15D	2.40 - 2.50						4.35 - 4.40m: Stiff reddish brown gravelly clay. Gravel is angular to rounded fine and medium flint.	7.75	12.05	
	16D*	2.40 - 2.50		Vo 0.0							
	17W	2.72						4.55 - 4.60m: Pocket (40mm) of grey fine and medium sand.	{8.00}		
	18D	2.80 - 3.00									
	19D*	2.80 - 3.00		Vo 0.0				Soft brown slightly gravelly sandy CLAY with frequent medium gravel sized pockets of grey and greenish blue sandy clay. Gravel is subangular to rounded fine to coarse flint. (HEAD DEPOSITS)			
	20D	3.20 - 3.65		Nil	S 13						
	21X	3.20 - 4.20						Firm brownish orange mottled light grey slightly sandy gravelly CLAY. Gravel is angular to rounded fine to coarse flint. Organic odour. (HEAD DEPOSITS)			
	22D	3.50 - 3.70									
	23D*	3.50 - 3.70		Vo 0.0				Soft brown slightly gravelly sandy CLAY. Gravel is subangular to rounded fine and medium flint, rarely chalk. (HEAD DEPOSITS)			
	24D	4.00 - 4.20									
	25D*	4.00 - 4.20		Vo 0.0				6.70m: Lens of red fine and medium sand (10mmx15mm).			
	26D	4.20 - 4.65		Nil	S 21						
	27X	4.20 - 5.20						Continued Next Page			
	28D	4.60 - 4.70									
	29D*	4.60 - 4.70		Vo 0.0							
30UT	5.20 - 5.65		Nil								
31X	5.20 - 6.20										
32D	5.70 - 5.90										
33D*	5.70 - 5.90		Vo 0.0								
34D	6.20 - 6.65		Nil	S 16							
35X	6.20 - 7.20										
36D	6.50 - 6.70										
37D*	6.50 - 6.70		Vo 0.0								
38D	6.90 - 7.10										
39D*	6.90 - 7.10		Vo 0.0								
40D	7.20 - 7.65		Nil	S 9							
41X	7.20 - 8.20		7.20								

EQUIPMENT: Geotechnical Pioneer rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (128mm) 1.20-7.20m and (113mm) 7.20-25.00m and 26.50-29.50m. Waterflush rotary core drilled (116mm) 25.00-26.50m.  
 CASING: 140mm diam to 29.50m.  
 BACKFILL: On completion, a slotted standpipe (50mm) with geosock was installed to 29.00m, granular response zone 29.95-10.00m, bentonite seal 10.00-0.40m, gravel drain 0.40-0.30m, concrete and stop cock cover 0.30-0.00m.  
 Borehole installed on 15/06/2015.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-12.80m. No anomalies encountered. Driller notes loss of flush 25.00-26.50m. Chalk grade based on CIRIA C574 (2002). Stratum names provided by the Engineer.  
 EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks
3.05	Nil	2.72	20	Strike following run 2.20-3.20m.



CONTRACT  
**30766**

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**EC**

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH708**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 4

Start Date 10 June 2015 Easting 561299.3

Scale 1 : 50

End Date 15 June 2015 Northing 172747.4 Ground level 19.80mOD

Depth 29.95 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
10/06/15 1730hrs 6.05m	42D	8.20 - 8.65	7.20	S 7				Firm locally stiff brown CLAY with rare subrounded fine chalk and flint gravel. (HEAD DEPOSITS)	8.90	10.90	
	43X	8.20 - 9.20									
	44D	8.30 - 8.50									
	45D*	8.30 - 8.50		Vo 0.0							
	46D	9.00 - 9.20		Vo 0.0							
	47D*	9.00 - 9.20									
	48UT	9.20 - 9.65	9.20					Soft brown slightly gravelly sandy CLAY. Gravel is subangular to rounded fine and medium flint and rare chalk. (HEAD DEPOSITS)			
	50X	9.20 - 10.20									
	49D	9.65 - 9.80									
	11/06/15 0825hrs 6.35m	51D	10.00 - 10.20	9.20	Vo 0.0				Structureless CHALK composed of slightly sandy silty angular to rounded fine to coarse GRAVEL. Clasts are very weak low density white and cream chalk. Matrix is light brown and brown. Frequent rounded and subrounded fine to coarse flint gravel. (Probably CIRIA Grade Dc)	10.10	9.70
52D*		10.00 - 10.20									
53D		10.20 - 10.65									
54X		10.20 - 11.50	10.20								
55D		11.00 - 11.20									
56D*		11.00 - 11.20	Vo 0.0								
57X		11.50 - 11.95	11.50	S 13			Structureless CHALK composed of cream and light brown sandy gravelly SILT. Gravel is subangular to rounded fine to coarse very weak medium density white with rare orange specks chalk and subangular to rounded fine and medium flint. (Probably CIRIA Grade Dm)				
		11.50 - 12.80									
58D		12.20 - 12.40	11.50	S 24			10.85 - 10.95m: Subvertical relict fracture, infilled (20mm) with brown clay. 11.20 - 11.40m: Orangish brown. Clayey. 11.40 - 11.50m: Gravelly. Pocket (45mm) of reddish brown fine and medim sand.				
		59D*		12.20 - 12.40	Vo 0.0						
60D	12.80 - 13.23	11.50	S 24			Structureless CHALK composed of white sandy gravelly SILT. Gravel is angular to rounded fine to coarse weak medium density white with rare black specks chalk. (Probably CIRIA Grade Dm).					
	61X		12.80 - 14.30								
	62D		13.20 - 13.40								
	63D*		13.20 - 13.40	Vo 0.0							
64D	14.00 - 14.20	11.50	S 6			13.40 - 13.55m: Locally stained orange. 13.80m: Chalk cobble, speckled black. 14.10m: Cobble sized black nodular flint.					
	65D*		14.00 - 14.20								
	66D		14.30 - 14.75								
	67X		14.30 - 15.80								
68D	15.00 - 15.20	11.50	S 7			Structureless CHALK composed of slightly sandy silty angular to rounded fine to coarse GRAVEL. Clasts are weak medium density white with rare black specks. Matrix is white. Rare angular fine gravel of flint. (Probably CIRIA Grade Dc)					
	69D*		15.00 - 15.20	Vo 0.0							
70D	15.80 - 16.25	11.50	S 7			Structureless CHALK composed of slightly sandy silty angular and subangular fine to coarse GRAVEL. Clasts are weak medium and high density white with black specks locally stained orange chalk. Rare angular and subangular coarse flint gravel. Matrix is white and cream. (Probably CIRIA Grade Dc)					
	71X		15.80 - 17.30								
72D	17.00 - 17.10	11.50	S 13								
	73D		17.30 - 17.75								
	74X		17.30 - 18.80								

Continued Next Page

{18.00}

water strike (m) casing (m) rose to (m) time to rise (m) remarks



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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH708**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 3 of 4

Start Date 10 June 2015 Easting 561299.3

Scale 1 : 50

End Date 15 June 2015 Northing 172747.4 Ground level 19.80mOD

Depth 29.95 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	75D 76D 77X	18.50 - 18.60 18.80 - 19.25 18.80 - 20.30	11.50	S 29				18.20 - 18.40m: Slightly sandy gravelly silt. 18.70m: Pocket (30mm) of light orangish brown silty clay.			
	78D	19.50 - 19.60						19.45 - 19.50m: Flint, recovered non-intact.	19.90	-0.10	
	79D 80X	20.30 - 20.75 20.30 - 21.50	11.50 20.20	S 28				Structureless CHALK composed of white gravelly sandy SILT. Gravel is angular to subrounded fine to coarse very weak medium and high density white with rare grey marl seams, rare black specks and rare orange staining chalk. Rare angular medium gravel of flint. (Probably CIRIA Grade Dm)	20.80	-1.00	
	81D 82D 83X	21.40 - 21.50 21.50 - 21.95 21.50 - 22.80	20.20	S 44				Structureless CHALK composed of slightly sandy silty angular to subrounded fine and medium GRAVEL. Clasts are white with abundant orange staining. Matrix is white. Rare medium gravel sized pockets of orangish red clay. (Probably CIRIA Grade Dc) 21.70 - 21.95m: Cobble sized black nodular flint, recovered non intact.	22.35	-2.55	
	84D 85D 86X	22.70 - 22.80 22.80 - 23.25 22.80 - 24.30	20.20	S 31				Structureless CHALK composed of white gravelly locally very gravelly SILT. Gravel is subangular and subrounded fine to coarse very weak low and medium density white with abundant orange staining chalk. (Probably CIRIA Grade Dm) 23.50m: 40mm subangular flint gravel.	23.70	-3.90	
11/06/15 1750hrs 15.55m	87D 88D	24.20 - 24.30 24.30 - 24.75	22.80	S 33				Structureless CHALK composed of slightly sandy silty angular to subrounded fine and medium GRAVEL. Clasts are white with rare orange staining chalk. Matrix is white. (Probably CIRIA Grade Dc) 24.10 - 24.15m: Cobble sized flint, recovered non-intact. 24.35 - 24.50m: Flint, recovered non-intact.	25.00	-5.20	
12/06/15 0820hrs 15.55m	89X	24.30 - 25.00									
	90C	25.00 - 26.50	24.95		27 4 0	NI 40 60		Limited recovery (27%) of very weak medium density white with black specks and orange staining CHALK. Fractures are subhorizontal and subvertical to 80° very closely spaced planar smooth infilled (up to 5mm) with white silt locally stained orangish brown. (Probably CIRIA Grade C4) 25.30 - 25.40m: Cobble sized black nodular flint. 25.40 - 26.50m: Assessed zone of core loss.			
	91D 92D 93X	26.10 - 26.20 26.50 - 26.95 26.50 - 28.00	24.95	S 37				Structureless CHALK composed of slightly sandy silty subangular and subrounded fine to coarse GRAVEL. Clasts are very weak medium density white with orange staining chalk. Matrix is white and cream locally orange stained. (CIRIA Grade Dc)	27.40	-7.60	
	94D	27.50 - 27.60 28.00 - 28.45	24.95	S 63				Structureless CHALK composed of white slightly sandy gravelly SILT. Gravel is angular to subrounded fine and medium white with orange staining chalk and rare angular			
Continued Next Page									[28.00]		

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:46:02 DA EL\EC

water strike (m) casing (m) rose to (m) time to rise (m) remarks



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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**BH708**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 4 of 4

Start Date 10 June 2015 Easting 561299.3

Scale 1 : 50

End Date 15 June 2015 Northing 172747.4 Ground level 19.80mOD

Depth 29.95 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	lf	instru -ment	description	depth (m)	reduced level (m)	legend
	95X	28.00 - 29.50	28.00					and subangular fine to coarse flint. (Probably CIRIA Grade Dm)			
	96D	29.00 - 29.10						28.20 - 28.30m: Cobble sized black nodular flint, recovered non-intact.			
12/06/15 1325hrs 15.55m	97D	29.50 - 29.95	29.50	S 59				28.75 - 29.05m: Cobble sized black nodular flint, recovered non-intact.  29.25 - 29.45m: Cobble sized black nodular flint, recovered non-intact.	29.95	-10.15	
15/06/15 1100hrs 15.55m								Borehole completed at 29.95m.			

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water strike (m) casing (m) rose to (m) time to rise (m) remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**WS101**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 22 June 2015 Easting 560945.0

Scale 1 : 50

End Date 22 June 2015 Northing 176278.9 Ground level 9.10mOD

Depth 6.45 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
22/06/15 1050hrs	1B	0.20 - 0.40					Brown slightly gravelly silty fine to coarse SAND with frequent roots (up to 5mm diam) and rootlets (up to 2mm diam). Gravel is angular to subrounded fine to coarse flint and sandstone. (MADE GROUND)	0.50	8.60	
	2D*	0.20 - 0.40		Vo 0.0						
	3B	0.50 - 0.70					Brown and dark brown very silty very gravelly fine to coarse SAND with rare rootlets (up to 2mm diam) and rare subangular fine to coarse flint gravel. (MADE GROUND)	1.20	7.90	
	4D*	0.50 - 0.70		Vo 0.0						
	5B	1.00 - 1.20					Medium dense locally poorly cemented greyish brown mottled orangish brown sandy SILT with rare rootlets (up to 2mm diam) and rare angular to subrounded fine to coarse flint and sandstone gravel. Material Cement Kiln Dust (CKD). (MADE GROUND) 1.50 - 1.60m: Rare black specks.	1.95	7.15	
	6D*	1.00 - 1.20		Vo 0.0						
	7D	1.20 - 1.65		Nil	S 16		Loose locally poorly cemented greyish brown mottled orangish brown silty fine and medium SAND. Material Cement Kiln Dust (CKD). (MADE GROUND) 2.55 - 2.60m: White stained. 2.80m: Angular coarse sandstone gravel.			
	8X	1.20 - 2.00								
	9D*	1.50 - 1.60			Vo 0.0		3.20 - 4.00m: Slightly gravelly.			
	10D	1.60 - 1.70								
	11U	2.00 - 2.45		2.00			4.45 - 4.90m: Medium dense.			
	12X	2.00 - 3.00			Vo 0.0					
	13D*	2.20 - 2.30			Vo 0.0		Well cemented thinly laminated greyish brown silty fine and medium SAND. Material Cement Kiln Dust (CKD). (MADE GROUND)	5.30	3.80	
	14D	2.30 - 2.40			Vo 0.0					
	15D*	2.70 - 2.80			Vo 0.0		6.00 - 6.45m: CKD into alluvium (Drillers Description). Dark brown slightly sandy organic SILT (laboratory description). Borehole completed at 6.45m.	6.20	2.90	
	16D	2.80 - 2.90		3.00	S 4					
	17D	3.00 - 3.45			Vo 0.5		6.45	2.65		
	18X	3.00 - 4.00			Vo 1.4					
	19D*	3.20 - 3.30		4.00	S 15		{8.00}			
	20D	3.30 - 3.40			Vo 5.6					
21D*	3.70 - 3.80			Vo 4.5						
22D	3.80 - 3.90		4.00							
23U	4.00 - 4.45									
25X	4.00 - 5.00									
24D	4.45 - 4.90		4.00	S 15						
26D*	4.90 - 5.00			Vo 5.6						
27X	5.00 - 6.00			Vo 4.5						
28D*	5.60 - 5.70		6.00							
29D	5.70 - 5.80									
30U	6.00 - 6.45		6.00							

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (113mm) 1.20-4.00m and (84mm) 4.00-6.00m.  
 CASING: 128mm diam to 6.00m.  
 BACKFILL: On completion, borehole backfilled with bentonite 6.45-6.00m. A slotted standpipe (50mm) with geosock was installed to 6.00m, granular response zone 6.00-1.30m, bentonite seal 1.30-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-6.45m. No anomalies encountered.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks
4.10	4.00	4.05	20	Water strike following U70 4.00-4.45m.



CONTRACT  
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# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**WS102**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 22 June 2015 Easting 560674.2

Scale 1 : 50

End Date 23 June 2015 Northing 176217.1 Ground level 8.45mOD

Depth 5.22 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend
22/06/15 1615hrs	1B	0.20 - 0.40					Brown with white and black specks slightly gravelly fine to coarse SAND with frequent roots (up to 3mm diam) and rootlets (up to 1mm diam). Gravel is angular to subrounded fine to coarse flint, sandstone and chalk. (MADE GROUND)	0.50	7.95	
	2D*	0.20 - 0.40		Vo 0.0						
	3B	0.50 - 0.70								
	4D*	0.50 - 0.70		Vo 0.0						
	5B	1.00 - 1.20								
	6D*	1.00 - 1.20		Vo 0.0						
	7D	1.20 - 1.65		Nil	S 15					
	8X	1.20 - 2.00								
	9D*	1.35 - 1.45			Vo 0.0					
		10D*	1.70 - 1.80		Vo 0.0					
	11D	1.80 - 1.90								
	12U	2.00 - 2.45	2.00							
	13X	2.00 - 3.00								
	14D*	2.20 - 2.30		Vo 0.0						
	15D	2.30 - 2.40								
	16D*	2.70 - 2.80		Vo 0.0						
22/06/15 1800hrs Dry	17D	2.80 - 2.90								
	18D	3.00 - 3.45	3.00	S 8						
23/06/15 0800hrs Dry	19X	3.00 - 4.00								
	20D*	3.20 - 3.30		Vo 0.0				3.40	5.05	
	21D	3.30 - 3.40								
	22D*	3.70 - 3.80		Vo 0.0						
	23D	3.80 - 3.90								
	24U	4.00 - 4.45	4.00							
	25X	4.00 - 5.00								
	26D*	4.20 - 4.30		Vo 0.0						
	27D	4.30 - 4.40						4.70	3.75	
	28D*	4.70 - 4.80		Vo 0.0						
23/06/15 0915hrs 4.68m	29D	4.80 - 4.90								
	30D	5.00 - 5.22	5.00	S*429				5.22	3.23	
Borehole completed at 5.22m.										

EQUIPMENT: Geotechnical Terrier 2000 rig  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (113mm) 1.20-5.00m.  
 CASING: 128mm diam to 5.00m.  
 BACKFILL: On completion, a slotted standpipe (50mm) with geosock was installed to 5.00m, granular response zone 5.22-1.30m, bentonite seal 1.30-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-5.22m. Hole terminated at 5.22m due to refusal of sampler barrel.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks
3.90	4.00	3.99	20	Water strike following run 3.00-4.00m.



CONTRACT  
**30766**

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**EC**



# BOREHOLE LOG



## WS201

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560160.2

Scale 1 : 50

End Date 25 June 2015 Northing 175710.2 Ground level 4.10mOD

Depth 0.15 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1000hrs 25/06/15 1030hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.15m.	0.15	3.95	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.15m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.15m due to hard strata and reattempted as WS201A approximately 2.00m to the west.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m) casing (m) rose to (m) time to rise (min) remarks  
 Groundwater not encountered.



CONTRACT  
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**EC**

# BOREHOLE LOG



## WS201A

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560157.1

Scale 1 : 50

End Date 25 June 2015 Northing 175710.3 Ground level 4.05mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1030hrs 25/06/15 1045hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	3.95	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.10m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.10m due to hard strata and reattempted as WS201B approximately 4.00m to the west.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

# BOREHOLE LOG



## WS201B

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560152.3

Scale 1 : 50

End Date 25 June 2015 Northing 175706.9 Ground level 3.75mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1045hrs 25/06/15 1100hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	3.65	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.10m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.10m due to hard strata and reattempted as WS201C approximately 8.00m to the east.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

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# BOREHOLE LOG



**WS201C**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560163.5

Scale 1 : 50

End Date 25 June 2015 Northing 175716.3 Ground level 4.20mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1400hrs 25/06/15 1415hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	4.10	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.10m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.10m due to hard strata and reattempted as WS201D approximately 2.00m to the south.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

# BOREHOLE LOG



## WS201D

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560165.9

Scale 1 : 50

End Date 25 June 2015 Northing 175713.1 Ground level 4.10mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1415hrs 25/06/15 1430hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	4.00	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.10m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.10m due to hard strata and reattempted as WS201E approximately 4.00m to the north.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

# BOREHOLE LOG



## WS201E

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560161.5

Scale 1 : 50

End Date 25 June 2015 Northing 175719.7 Ground level 4.25mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1430hrs 25/06/15 1445hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	4.15	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.

METHOD: Hand dug inspection pit 0.00-0.10m.

CASING: None used.

BACKFILL: On completion, hole backfilled with local materials.

REMARKS: Inspection pit terminated at 0.10m due to hard strata and reattempted as WS201F approximately 20.00m to the north.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m) casing (m) rose to (m) time to rise (min) remarks

Groundwater not encountered.



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



**WS201F**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560156.3

Scale 1 : 50

End Date 25 June 2015 Northing 175741.8 Ground level 4.25mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1445hrs 25/06/15 1500hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	4.15	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.10m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.10m due to hard strata and reattempted as WS201G approximately 5.00m to the west.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks
				Groundwater not encountered.



CONTRACT  
**30766**

CHECKED  
**EC**

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:46:07 TP RE

# BOREHOLE LOG



## WS201G

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560145.6

Scale 1 : 50

End Date 25 June 2015 Northing 175738.9 Ground level 3.70mOD

Depth 0.10 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1515hrs 25/06/15 1530hrs Dry							Well cemented light grey slightly gravelly fine SAND. Gravel is angular to subangular fine to coarse well cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 0.10m.	0.10	3.60	XXXX
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.10m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with local materials.  
 REMARKS: Inspection pit terminated at 0.10m due to hard strata.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m) casing (m) rose to (m) time to rise (min) remarks  
 Groundwater not encountered.



CONTRACT  
**30766**

CHECKED  
**EC**



# BOREHOLE LOG



**WS202**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 2

Start Date 24 June 2015 Easting 560621.9

Scale 1 : 50

End Date 25 June 2015 Northing 175869.8 Ground level 9.40mOD

Depth 12.00 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
24/06/15 1115hrs	1B	0.20 - 0.40					Stiff dark brown slightly sandy silty CLAY with rare subangular and subrounded fine and medium flint and sandstone gravel. (MADE GROUND)	0.50	8.90	
	2D*	0.20 - 0.40		Vo 0.0						
	3B	0.50 - 0.70					Light grey sandy SILT with rare subrounded fine and coarse CKD gravel. Material Cement Kiln Dust (CKD). (MADE GROUND)	1.20	8.20	
	4D*	0.50 - 0.70		Vo 0.0						
	5B	1.00 - 1.20					Medium dense locally poorly cemented greyish brown with black specks gravelly very silty fine SAND. Gravel is subangular and subrounded fine to coarse poorly cemented CKD and rare flint. Material Cement Kiln Dust (CKD). (MADE GROUND)	1.60	7.80	
	6D*	1.00 - 1.20		Vo 0.0						
	7D	1.20 - 1.65		Nil	S 24		Plastic black with rare brown specks slightly gravelly amorphous PEAT. Gravel is angular to subrounded fine to coarse coal and poorly cemented CKD. (MADE GROUND)	2.10	7.30	
	8X	1.20 - 2.00								
	9D*	1.65 - 1.75			Vo 0.0		Medium dense locally poorly cemented greyish brown with white specks gravelly very silty fine SAND. Gravel is angular to subrounded fine to coarse poorly cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)	4.45	4.95	
	10D	1.75 - 1.85		Vo 0.0						
	11U	2.00 - 2.45		2.00			Very dense well cemented greyish brown slightly gravelly fine SAND. Gravel is angular to subrounded fine to coarse poorly cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)	6.45	2.95	
	12X	2.00 - 3.00								
	13D*	2.25 - 2.35			Vo 0.0		5.90 - 5.95m: Reddish brown stained. 6.00 - 6.45m: Medium dense.	6.45	2.95	
	14D	2.35 - 2.45			Vo 0.0					
	15D*	2.70 - 2.80			Vo 0.0		Medium dense locally poorly cemented greyish brown gravelly silty fine SAND. Gravel is subangular and subrounded fine and medium rarely coarse poorly cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)	7.50		
	16D	2.80 - 2.90			Vo 0.0					
	17X	3.00 - 3.45		3.00	C 29		7.50m: Medium gravel sized white staining.			
	18X	3.40 - 4.00			Vo 0.0					
	19D*	3.70 - 3.80			Vo 0.0		Continued Next Page	{8.00}		
	20D	3.80 - 3.90			Vo 0.0					
	21D	4.00 - 4.45		3.00	S 29					
	22X	4.00 - 5.00								
	23D*	4.70 - 4.90			Vo 0.0					
	24X	5.00 - 6.00		3.00	C 56					
	25D*	5.70 - 5.90			Vo 0.0					
	26D	6.00 - 6.45		3.00	S 16					
	27X	6.00 - 7.00								
	28D*	6.70 - 6.90			Vo 0.5					
	29D	7.00 - 7.45		3.00	S 10					
	30X	7.00 - 8.00								
	31D*	7.50 - 7.80			Vo 1.3					
	32D	8.00 - 8.45		3.00	S 22					

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (1113mm) 1.20-3.40m and 9.00-10.00m, (98mm) 3.40-4.00m and 10.00-11.00m, (84mm) 4.00-5.00m, 8.00-9.00m and 11.00-12.00m, (74mm) 5.00-6.00m, (64mm) 6.00-8.00m.  
 CASING: 113mm diam to 9.00m.  
 BACKFILL: On completion, borehole backfilled with bentonite 12.00-11.00m. A slotted standpipe (50mm) with geosock was installed to 10.50m, granular response zone 11.00-2.80m, bentonite seal 2.80-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-12.00m. Stratum names provided by the Engineer.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# BOREHOLE LOG



**WS202**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 2

Start Date 24 June 2015 Easting 560621.9

Scale 1 : 50

End Date 25 June 2015 Northing 175869.8 Ground level 9.40mOD

Depth 12.00 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
24/06/15 1700hrs 9.21m	33X	8.00 - 9.00	3.00	Vo 0.8 C 74			Medium dense locally poorly cemented greyish brown slightly gravelly silty fine SAND. Gravel is subangular and subrounded fine and medium poorly cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND) 8.20 - 8.40m: Thinly laminated. 8.70m: Greenish grey staining.	8.20	1.20	
	34D* 35D	8.70 - 8.80 8.80 - 8.90						9.00	0.40	
25/06/15 0810hrs 7.71m	36X	9.00 - 10.00	9.00	Vo 1.5 S 27			Very dense well cemented thinly laminated greyish brown slightly gravelly very silty fine SAND. Gravel is subangular and subrounded fine to coarse poorly cemented CKD. Material Cement Kiln Dust (CKD). (MADE GROUND)	10.20	-0.80	
	37D* 38D 39D 40X	9.70 - 9.80 9.80 - 9.90 10.00 - 10.45 10.00 - 11.00						11.10	-1.70	
	41D* 42D 43U 44X	10.70 - 10.80 10.80 - 10.90 11.00 - 11.45 11.00 - 12.00						11.10	-1.70	
	45D* 46D	11.70 - 11.80 11.80 - 11.90						12.00	-2.60	
25/06/15 1400hrs 10.85m										
							Borehole completed at 12.00m.			

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water strike (m)	casing (m)	rose to (m)	time to rise (m)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
9.21 10.40	3.00 9.00	8.42	20	Encountered following SPT 9.00-9.45m Encountered following run 10.00-11.00m			

# BOREHOLE LOG



**WS203**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 23 June 2015 Easting 560435.9

Scale 1 : 50

End Date 24 June 2015 Northing 175753.6 Ground level 2.60mOD

Depth 4.50 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend
23/06/15 1600hrs	1B	0.20 - 0.40	2.00	Vo 0.6		/ /	Grass over dark brown mottled dark grey silty subangular and subrounded fine and medium flint, sandstone, red brick and concrete GRAVEL. (MADE GROUND)	0.50	2.10	
	2D*	0.20 - 0.40								
	3B	0.50 - 0.70								
	4D*	0.50 - 0.70								
	5B	1.00 - 1.20								
	6D*	1.00 - 1.20								
	7D	1.20 - 1.65								
	8X	1.20 - 2.00								
	9D*	1.65 - 1.75								
	10D	1.75 - 1.85								
	11U	2.00 - 2.45								
	12X	2.00 - 3.00								
	13D*	2.25 - 2.35								
23/06/15 1730hrs Dry	14D*	2.75 - 2.85	3.00	Vo 0.5		/ /	Loose locally poorly cemented greyish brown slightly silty fine SAND. Material Cement Kiln Dust (CKD). (MADE GROUND)	2.25	0.35	
	15D	3.00 - 3.45								
24/06/15 0800hrs 2.41m	16X	3.00 - 4.00	4.00	Vo 0.3		/ /	Medium dense locally poorly cemented greyish brown with rare fine and medium gravel sized black pockets slightly silty slightly gravelly fine SAND. Gravel is subangular and subrounded fine chalk. Material Cement Kiln Dust (CKD). (MADE GROUND)	4.10	-1.50	
	17D*	3.20 - 3.30								
24/06/15 0955hrs 3.88m	18D	3.30 - 3.40	4.00	Vo 0.5		/ /	2.40m: Coarse gravel sized pocket of soft brown clay.	4.50	-1.90	
	19D*	3.70 - 3.80								
	20D	3.80 - 3.90								
	21D	4.00 - 4.45								
	22X	4.00 - 4.50								
							3.70 - 4.00m: Gravelly.			
							Plastic black slightly sandy amorphous PEAT.			
							Borehole completed at 4.50m.			

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (113mm) 1.20-2.00m and 3.00-4.50m and (84mm) 2.00-3.00m.  
 CASING: 128mm diam to 4.50m.  
 BACKFILL: On completion, borehole backfilled with bentonite 4.50-4.00m. A slotted standpipe (50mm) with geosock was installed to 4.00m, granular response zone 4.00-1.30m, bentonite seal 1.30-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-4.50m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
2.00	2.00	1.71	20	Overnight strike.			

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# BOREHOLE LOG



**WS204**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 2

Start Date 25 June 2015 Easting 560318.8

Scale 1 : 50

End Date 25 June 2015 Northing 175576.6 Ground level 12.35mOD

Depth 8.90 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend	
25/06/15 1400hrs	1B	0.20 - 0.30					Grass over soft dark brown clayey SILT. (MADE GROUND)	0.10	12.25		
	2D*	0.20 - 0.30		Vo 1.2				0.50	11.85		
	3B	0.50 - 0.70					Soft to firm dark brown slightly sandy silty CLAY. (MADE GROUND)				
	4D*	0.50 - 0.70		Vo 0.8							
	5B	1.00 - 1.20					Poorly cemented light grey slightly sandy SILT. Material Cement Kiln Dust (CKD). (MADE GROUND)	1.20	11.15		
	6D*	1.00 - 1.20		Vo 0.8							
	7D	1.20 - 1.65		Nil	S 15						
	8X	1.20 - 2.00									
	9D*	1.45 - 1.55			Vo 0.0			Medium dense locally poorly cemented greyish brown with rare white specks very silty fine SAND. Material Cement Kiln Dust (CKD). (MADE GROUND)	2.00		10.35
	10D	1.55 - 1.65						1.55 - 1.75m: Rare fine to coarse gravel sized black pockets.			
	11D*	1.90 - 2.00		2.00	Vo 0.0						
	U	2.00 - 2.45						Medium dense well cemented brown with rare grey specks very silty fine SAND. Material Cement Kiln Dust (CKD). (MADE GROUND)			
	12X	2.00 - 3.00									
	13D*	2.45 - 2.55			Vo 0.0						
	14D	2.55 - 2.65						2.65 - 3.00m: Brownish grey mottled light grey. 2.80m: Coarse gravel sized black staining.			
	15D*	2.90 - 3.00		2.00	Vo 0.0	S 23					
	16D	3.00 - 3.45									
	17X	3.00 - 4.00									
	18D*	3.45 - 3.55			Vo 0.0			3.50 - 3.70m: Greyish brown sandy silt.			
	19D	3.55 - 3.65									
	20D*	3.90 - 4.00		2.00	Vo 0.0	S 13					
	21D	4.00 - 4.45									
	22X	4.00 - 5.00									
	23D*	4.45 - 4.55			Vo 0.0						
	24D	4.55 - 4.65		2.00	Vo 0.0				5.25		7.10
	25D*	4.90 - 5.00			Vo 0.0						
	26U	5.00 - 5.45						Medium dense well cemented greyish brown with rare white and grey specks sandy SILT. Material Cement Kiln Dust (CKD). (MADE GROUND)			
	27X	5.00 - 6.00									
	28D*	5.45 - 5.75			Vo 0.0						
	29D	6.00 - 6.45		2.00	S 16						
	30X	6.00 - 7.00									
	31D*	6.45 - 6.75			Vo 0.0						
	32X	7.00 - 7.45 7.00 - 8.00		2.00	C 20			Medium dense well cemented locally thinly laminated greyish brown with rare black and light grey specks slightly sandy SILT. Material Cement Kiln Dust (CKD). (MADE GROUND)	6.90		5.45
	33D*	7.45 - 7.55			Vo 0.0						
	34D	7.55 - 7.65									
35D*	7.90 - 8.00			Vo 0.0							
Continued Next Page								{8.00}			

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (113mm) 1.20-3.00m, (98mm) 3.00-4.00m and 7.00-8.00, (84mm) 4.00-5.00m and 8.00-8.90, (74mm) 5.00-6.00m, (64mm) 6.00-7.00m.  
 CASING: 128mm diam to 2.00m.  
 BACKFILL: On completion, a slotted standpipe (50mm) with geosock was installed to 8.90m, granular response zone 8.90-1.50m, bentonite seal 1.50-0.30m, concrete and raised helmet cover 0.30-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-8.90m. Hole terminated at 8.90m due to refusal of sampler barrel.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

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# BOREHOLE LOG



**WS204**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 2 of 2

Start Date 25 June 2015 Easting 560318.8

Scale 1 : 50

End Date 25 June 2015 Northing 175576.6 Ground level 12.35mOD

Depth 8.90 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
25/06/15 1830hrs Dry	36X	8.00 - 8.45	2.00	S 27			8.25 - 8.40m: Light grey.	8.90	3.45	
	37D*	8.55 - 8.65		Vo 0.0						
	38D	8.70 - 8.80	2.00	C*333			8.80 - 8.90m: Slightly gravelly. Gravel is angular to subrounded fine to coarse flint.			
	8.90 - 9.07				Borehole completed at 8.90m.					

{18.00}

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:46:10 TP/AT RE

water strike (m) casing (m) rose to (m) time to rise (m) remarks  
Groundwater not encountered.



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



**WS301**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 23 June 2015 Easting 559578.2

Scale 1 : 50

End Date 23 June 2015 Northing 175188.9 Ground level 8.20mOD

Depth 1.65 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
23/06/15 1050hrs	1B 2D* 3B 4D* 5B 6D*	0.30 - 0.50 0.30 - 0.50 0.50 - 0.70 0.50 - 0.70 1.00 - 1.20 1.00 - 1.20		Vo 0.0 Vo 0.0 Vo 0.0			Brownish grey slightly silty slightly gravelly fine to coarse SAND with rare black fine gravel sized pockets of ash and rare rootlets (up to 1mm diam). Gravel is angular to subrounded fine to coarse flint, chalk and rare sandstone. (MADE GROUND) 0.30 - 0.50m: Rare coarse gravel sized glass fragments. 0.50 - 1.20m: Rare fragments of organic material. Gravel is flint, chalk, poorly cemented silt (Cemented Kiln Dust) and rare sandstone. 0.80 - 1.00m: Angular to subrounded flint cobbles.	1.20	7.00	
23/06/15 1250hrs Dry	7D 8X	1.20 - 1.65 1.20 - 1.65	Nil	S 45				1.65	6.55	
		1.65 - 1.87	Nil	C*195			Well cemented light grey with with rare black specks, rare medium gravel sized black pockets and rare orange staining sandy SILT with rare rootlets (up to 1mm diam) and rare angular fine to coarse flint gravel. Material Cement Kiln Dust (CKD). (MADE GROUND)  Borehole completed at 1.65m.			

{8.00}

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-1.20m. Dynamic sampled (84mm) 1.20-1.65m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with bentonite 1.65-0.90m and arisings 0.90-0.00m.  
 REMARKS: Downhole magnetometry for UXO risk mitigation undertaken 0.00-1.65m. Borehole terminated at 1.65m due to hard strata and reattempted as WS301A approximately 1.50m southwest.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

# BOREHOLE LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**WS301A**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 23 June 2015 Easting 559580.0

Scale 1 : 50

End Date 23 June 2015 Northing 175191.5 Ground level 8.40mOD

Depth 0.36 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru -ment	description	depth (m)	reduced level (m)	legend
23/06/15 1255hrs <del>23/06/15</del> 1400hrs Dry							Brownish grey slightly silty slightly gravelly fine to coarse SAND with rare black fine gravel sized pockets of ash and rare rootlets (up to 1mm diam). Gravel is angular to subrounded fine to coarse flint, chalk and rare sandstone. (MADE GROUND)  Borehole completed at 0.36m.	0.36	8.04	

{8.00}

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.36m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with arisings.  
 REMARKS: Inspection pit terminated at 0.36m due to hard strata and reattempted as WS301B approximately 1.50m to the north.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m) casing (m) rose to (m) time to rise (min) remarks

Groundwater not encountered.



CONTRACT  
**30766**

CHECKED  
**EC**

# BOREHOLE LOG



## WS301B

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 23 June 2015 Easting 559582.5

Scale 1 : 50

End Date 23 June 2015 Northing 175188.6 Ground level 8.20mOD

Depth 0.31 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend
23/06/15 1400hrs							Brownish grey slightly silty slightly gravelly fine to coarse SAND with rare black fine gravel sized pockets of ash and rare rootlets (up to 1mm diam). Gravel is angular to subrounded fine to coarse flint, chalk and rare sandstone. (MADE GROUND)  Borehole completed at 0.31m.	0.31	7.89	
23/06/15 1430hrs Dry										

{8.00}

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit 0.00-0.31m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with arisings.  
 REMARKS: Inspection pit terminated at 0.31m due to hard strata and reattempted as WS301C approximately 1.50m to the southeast.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m) casing (m) rose to (m) time to rise (min) remarks

Groundwater not encountered.



CONTRACT  
**30766**

CHECKED  
**EC**



# BOREHOLE LOG



## WS301C

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 23 June 2015 Easting 559584.0

Scale 1 : 50

End Date 23 June 2015 Northing 175191.0 Ground level 8.35mOD

Depth 0.33 m

progress date/time water depth	sample no & type	depth (m) from to	casing depth (m)	test type & value	samp. /core range	instru-ment	description	depth (m)	reduced level (m)	legend
23/06/15 1430hrs 23/06/15 1515hrs Dry							Brownish grey slightly silty slightly gravelly fine to coarse SAND with rare black fine gravel sized pockets of ash and rare rootlets (up to 1mm diam). Gravel is angular to subrounded fine to coarse flint, chalk and rare sandstone. (MADE GROUND)  Borehole completed at 0.33m.	0.33	8.02	
								{8.00}		

EQUIPMENT: Geotechnical Terrier 2000 rig.  
 METHOD: Hand dug inspection pit only 0.00-0.033m.  
 CASING: None used.  
 BACKFILL: On completion, hole backfilled with arisings.  
 REMARKS: Inspection pit terminated at 0.33m due to hard strata.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

water strike (m)	casing (m)	rose to (m)	time to rise (min)	remarks		CONTRACT <b>30766</b>	CHECKED <b>EC</b>
				Groundwater not encountered.			

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)
					blows	pen (mm)	blows		pen (mm)				
BH101	1.20	1.65	Nil	0.80	1 0	75 75	1 2 2 2	75 75 75 75	C	7	81		
BH101	3.20	3.65	3.00	0.80	1 1	75 75	1 0 0 1	75 75 75 75	C	2	81		
BH101	4.20	4.65	4.20	3.10	1 0	75 75	0 0 0 0	75 75 75 75	C	<1	81		
BH101	6.20	6.65	6.00	Dry	1 0	75 75	1 0 1 0	75 75 75 75	S	2	81		
BH101	8.20	8.65	8.00	Dry	1 0	75 75	0 1 0 0	75 75 75 75	S	1	81		
BH101	10.50	10.95	10.50	Dry	1 0	75 75	0 1 0 0	75 75 75 75	S	1	81		
BH101	13.50	13.95	13.00	Dry	1 0	75 75	1 0 1 4	75 75 75 75	S	6	81		
BH101	16.50	16.95	16.50	9.60	1 1	75 75	2 2 2 1	75 75 75 75	C	7	81		
BH101	18.00	18.45	18.00	3.10	1 3	75 75	4 6 10 15	75 75 75 75	C	35	81		
BH101	19.50	19.95	19.50	3.30	4 5	75 75	8 9 13 10	75 75 75 75	C	40	81		
BH101	21.00	21.45	21.00	5.80	1 1	75 75	2 1 2 2	75 75 75 75	S	7	81		
BH101	22.50	22.95	22.50	5.00	1 0	75 75	1 1 2 1	75 75 75 75	S	5	81		
BH101	24.00	24.45	22.50	2.98	3 5	75 75	5 6 7 8	75 75 75 75	S	26	68		
BH101	25.50	25.95	23.30	9.80	3 6	75 75	6 9 17 21	75 75 75 75	S	53	68		
BH101	28.50	28.95	28.50	9.85	9 9	75 75	10 18 27 29	75 75 75 75	S	84	68		
BH101	31.70	31.93	31.70	9.80	18 7	75 20	58 42	75 60	C	222	68		
BH101	34.70	34.82	34.70	8.00	25	40	85 15	75 0	C	400	68		
BH101	37.70	37.88	37.70	8.50	16 9	75 10	69 31	75 20	C	316	68		
BH101	40.70	40.84	40.70	8.20	25	75	100	60	C	500	68		
BH101	43.70	43.85	43.70	9.00	25	75	100	75	C	400	68		
BH201	1.70	2.02	1.50	Dry	17 8	75 30	40 38 22	75 75 65	C	140	73		
BH201	2.70	3.15	2.70	2.00	11 12	75 75	69 16 7 3	75 75 75 75	C	95	73		
BH201	3.70	4.11	3.70	2.99	4 3	75 75	8 14 42 36	75 75 75 35	C	115	73		
BH201	4.70	5.15	4.70	3.10	5 2	75 75	4 3 1 3	75 75 75 75	C	11	73		

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)						
					blows	pen (mm)	blows	pen (mm)											
BH201	5.70	6.15	5.70	3.74	5	4	75	75	3	2	1	1	75	75	75	75	C	7	73
BH201	7.70	8.15	6.70	3.68	1	3	75	75	6	4	5	7	75	75	75	75	S	22	73
BH201	8.70	9.15	8.70	3.76	3	4	75	75	3	2	2	2	75	75	75	75	S	9	73
BH201	9.70	10.15	9.70	3.57	3	5	75	75	3	3	2	1	75	75	75	75	S	9	73
BH202	1.20	1.65	Nil	Dry	1	0	75	75	1	1	1	1	75	75	75	75	S	4	81
BH202	3.20	3.65	3.00	3.20	1	2	75	75	1	1	1	1	75	75	75	75	S	4	81
BH202	5.20	5.65	5.20	4.50	1	0	75	75	0	1	0	0	75	75	75	75	S	1	81
BH202	7.20	7.65	7.00	5.80	1	1	75	75	0	0	1	0	75	75	75	75	S	1	81
BH202	9.20	9.65	9.20	4.40	1	0	75	75	0	1	0	1	75	75	75	75	S	2	81
BH202	11.50	11.95	11.00	10.20	1	0	75	75	1	0	1	0	75	75	75	75	S	2	81
BH202	14.50	14.95	13.50	Dry	2	2	75	75	1	2	1	2	75	75	75	75	S	6	81
BH202	17.50	17.95	13.50	17.00	1	0	75	75	1	1	1	5	75	75	75	75	S	8	81
BH202	19.00	19.45	19.00	19.00	2	2	75	75	2	2	2	2	75	75	75	75	C	8	81
BH202	20.50	20.95	20.50	6.30	2	2	75	75	1	1	1	1	75	75	75	75	S	4	81
BH202	22.50	22.95	22.50	5.42	3	2	75	75	2	2	2	2	75	75	75	75	S	8	73
BH202	24.00	24.45	24.00	0.27	3	3	75	75	3	4	4	4	75	75	75	75	S	15	73
BH202	27.00	27.45	27.00	4.04	1	3	75	75	3	2	3	2	75	75	75	75	S	10	73
BH202	28.50	28.95	28.50	3.71	1	2	75	75	8	8	17	22	75	75	75	75	S	55	73
BH203	1.20	1.65	1.20	Dry	1	3	75	75	3	0	3	2	75	75	75	75	C	8	81
BH203	2.20	2.65	2.20	Dry	1	0	75	75	1	1	2	2	75	75	75	75	C	6	81
BH203	3.20	3.65	3.20	Dry	1	0	75	75	1	1	1	2	75	75	75	75	S	5	81
BH203	5.20	5.65	5.20	Dry	1	3	75	75	4	4	8	9	75	75	75	75	S	25	81
BH203	6.20	6.65	6.00	Dry	1	4	75	75	5	6	9	9	75	75	75	75	S	29	81
BH203	7.20	7.65	7.20	Dry	3	6	75	75	7	8	8	9	75	75	75	75	S	32	81

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)						
					blows	pen (mm)	blows		pen (mm)										
BH203	8.20	8.65	8.20	8.00	7	7	75	75	7	9	9	8	75	75	75	75	C	33	81
BH203	9.20	9.65	9.00	8.10	1	2	75	75	3	4	6	6	75	75	75	75	C	19	81
BH203	10.20	10.65	10.00	9.40	2	2	75	75	3	3	4	5	75	75	75	75	C	15	81
BH203	12.00	12.45	12.00	9.30	1	0	75	75	1	1	1	1	75	75	75	75	C	4	81
BH203	13.50	13.95	13.50	4.10	1	1	75	75	1	1	1	2	75	75	75	75	S	5	81
BH203	15.50	15.95	15.50	2.96	3	1	75	75	2	4	4	2	75	75	75	75	S	12	73
BH203	17.00	17.45	16.00	2.68	2	2	75	75	4	4	3	4	75	75	75	75	S	15	73
BH203	18.50	18.95	18.50	2.82	1	3	75	75	3	2	3	4	75	75	75	75	S	12	73
BH203	20.00	20.45	18.50	2.80	4	5	75	75	4	5	4	5	75	75	75	75	S	18	73
BH203	21.50	21.84	21.50	2.70	8	15	75	75	30	37	33		75	75	40		S	158	73
BH203	22.70	23.15	22.70	2.34	4	7	75	75	7	6	8	12	75	75	75	75	S	33	73
BH203	25.70	26.06	22.70	3.42	7	15	75	75	28	44	28		75	75	55		S	146	73
BH203	28.70	29.15	22.70	2.86	7	10	75	75	7	9	7	9	75	75	75	75	S	32	73
BH203	31.60	32.05	22.70	2.73	7	12	75	75	13	18	18	15	75	75	75	75	S	64	73
BH203	34.60	35.05	22.70	2.74	4	5	75	75	7	9	12	14	75	75	75	75	S	42	73
BH203	37.20	37.62	22.70	2.74	6	8	75	75	12	21	40	27	75	75	75	45	S	111	73
BH203	40.20	40.65	22.70	2.76	7	10	75	75	19	27	27	27	75	75	75	75	S	100	73
BH204	1.20	1.65	1.00	Dry	1	6	75	75	8	11	13	16	75	75	75	75	C	48	81
BH204	2.20	2.65	2.00	Dry	1	1	75	75	2	2	1	2	75	75	75	75	C	7	81
BH204	3.20	3.65	3.20	Dry	1	0	75	75	1	2	2	2	75	75	75	75	C	7	81
BH204	4.20	4.65	4.00	Dry	0	1	75	75	1	1	1	2	75	75	75	75	S	5	81
BH204	6.20	6.65	6.20	Dry	0	1	75	75	1	1	1	1	75	75	75	75	S	4	81
BH204	7.20	7.65	7.20	6.80	2	2	75	75	4	4	4	8	75	75	75	75	C	20	81
BH204	8.20	8.65	8.20	6.80	4	6	75	75	6	4	4	3	75	75	75	75	C	17	81

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)
					blows	pen (mm)	blows		pen (mm)				
BH204	9.20	9.65	9.00	Dry	1 0	75 75	1 1 1 2	75 75 75 75	C	5	81		
BH204	11.50	11.95	11.50	8.80	1 2	75 75	2 1 1 1	75 75 75 75	S	5	81		
BH204	13.50	13.95	13.50	5.40	1 2	75 75	1 1 2 2	75 75 75 75	S	6	81		
BH204	15.00	15.45	15.00	2.90	1 0	75 75	1 0 1 1	75 75 75 75	S	3	73		
BH204	16.50	16.95	16.50	3.05	1 1	75 75	2 2 3 5	75 75 75 75	S	12	73		
BH204	18.00	18.45	18.00	2.87	3 3	75 75	3 3 4 4	75 75 75 75	S	14	73		
BH204	19.50	19.95	18.00	2.87	3 3	75 75	2 1 1 3	75 75 75 75	S	7	73		
BH501	1.20	1.65	Nil	Dry	5 1	75 75	2 2 1 2	75 75 75 75	S	7	79		
BH501	2.20	2.65	Nil	Dry	1 1	75 75	1 2 3 3	75 75 75 75	S	9	79		
BH501	3.20	3.65	Nil	Dry	1 1	75 75	1 2 2 2	75 75 75 75	S	7	79		
BH501	4.20	4.65	Nil	Dry	1 2	75 75	3 4 4 4	75 75 75 75	S	15	79		
BH501	5.20	5.65	4.20	2.14	3 3	75 75	3 3 3 4	75 75 75 75	S	13	79		
BH501	6.20	6.65	6.20	1.59	2 3	75 75	3 3 4 4	75 75 75 75	S	14	79		
BH501	7.20	7.65	7.20	1.34	4 5	75 75	6 6 7 7	75 75 75 75	S	26	79		
BH501	8.20	8.65	7.20	3.21	3 4	75 75	3 3 3 2	75 75 75 75	S	11	73		
BH501	9.20	9.65	7.20	Dry	1 0	75 75	0 0 1 1	75 75 75 75	S	2	73		
BH501	10.20	10.65	7.20	Dry	1 0	75 75	0 0 1 0	75 75 75 75	S	1	73		
BH501	11.70	12.15	11.70	11.30	2 2	75 75	2 2 1 1	75 75 75 75	S	6	73		
BH501	13.00	13.45	13.00	11.78	2 4	75 75	12 11 9 12	75 75 75 75	S	44	73		
BH501	14.50	14.95	13.00	11.70	2 3	75 75	5 6 7 8	75 75 75 75	S	26	73		
BH501	15.70	16.15	13.00	12.35	13 10	75 75	8 9 10 15	75 75 75 75	S	42	73		
BH501	17.00	17.45	15.70	11.57	3 6	75 75	8 8 9 16	75 75 75 75	S	41	73		
BH501	20.00	20.45	17.00	11.10	3 3	75 75	7 18 38 18	75 75 75 75	S	81	73		
BH502	1.20	1.65	Nil	Dry	2 3	75 75	5 9 12 15	75 75 75 75	S	41	73		

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)						
					blows	pen (mm)	blows	pen (mm)											
BH502	2.20	2.65	Nil	Dry	1	2	75	75	2	4	4	5	75	75	75	75	S	15	73
BH502	3.20	3.65	Nil	Dry	1	1	75	75	1	1	1	2	75	75	75	75	S	5	73
BH502	4.20	4.65	Nil	Dry	1	1	75	75	1	2	3	2	75	75	75	75	S	8	73
BH502	5.20	5.65	Nil	Dry	4	8	75	75	7	7	6	5	75	75	75	75	S	25	73
BH502	6.20	6.65	Nil	Dry	2	2	75	75	1	1	2	2	75	75	75	75	S	6	73
BH502	7.20	7.65	Nil	Damp	1	0	75	75	1	2	2	2	75	75	75	75	S	7	73
BH502	8.20	8.65	Nil	Dry	2	2	75	75	1	2	2	2	75	75	75	75	S	7	73
BH502	9.20	9.65	Nil	Dry	1	0	75	75	1	0	0	0	75	75	75	75	S	1	73
BH502	10.20	10.65	10.20	9.34	17	8	75	75	3	2	2	2	75	75	75	75	S	9	73
BH502	11.70	12.15	11.70	Dry	3	4	75	75	6	7	7	8	75	75	75	75	S	28	73
BH502	13.20	13.65	13.20	11.95	5	6	75	75	8	8	6	8	75	75	75	75	S	30	73
BH502	14.50	14.95	13.20	11.78	5	18	75	75	13	12	19	18	75	75	75	75	S	62	73
BH502	17.00	17.45	17.00	11.96	5	8	75	75	9	9	10	12	75	75	75	75	S	40	73
BH502	20.00	20.45	17.00	12.00	3	5	75	75	8	9	13	19	75	75	75	75	S	49	73
BH703	1.20	1.65	Nil	Dry	2	1	75	75	2	2	2	2	75	75	75	75	S	8	79
BH703	2.20	2.65	Nil	Dry	2	1	75	75	2	2	1	2	75	75	75	75	S	7	79
BH703	3.20	3.65	Nil	Dry	2	2	75	75	3	3	3	3	75	75	75	75	S	12	79
BH703	4.20	4.65	Nil	Dry	1	1	75	75	1	2	2	2	75	75	75	75	S	7	79
BH703	5.20	5.65	Nil	Dry	2	2	75	75	3	3	5	5	75	75	75	75	S	16	79
BH703	6.20	6.65	6.20	1.84	5	9	75	75	9	10	10	9	75	75	75	75	S	38	79
BH703	7.20	7.65	7.20	2.14	4	4	75	75	17	11	6	8	75	75	75	75	S	42	79
BH703	8.20	8.65	8.20	4.17	3	4	75	75	3	3	3	2	75	75	75	75	S	11	79
BH703	9.20	9.65	9.20	4.46	1	1	75	75	1	1	1	1	75	75	75	75	S	4	79
BH703	10.20	10.65	10.20	4.37	2	1	75	75	2	2	2	2	75	75	75	75	S	8	79

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT

**30766**

CHECKED

**EC**

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)						
					blows	pen (mm)	blows		pen (mm)										
BH704	1.20	1.65	Nil	Dry	1	1	75	75	1	1	1	1	75	75	75	75	S	4	79
BH704	2.20	2.65	Nil	Dry	1	1	75	75	1	1	0	1	75	75	75	75	S	3	79
BH704	4.20	4.65	Nil	4.10	1	1	75	75	1	1	1	2	75	75	75	75	S	5	79
BH704	5.20	5.65	5.20	4.10	2	2	75	75	1	1	1	1	75	75	75	75	S	4	79
BH704	6.20	6.65	6.15	3.31	2	3	75	75	4	2	2	2	75	75	75	75	S	10	79
BH704	7.20	7.65	7.20	4.11	2	2	75	75	2	2	2	2	75	75	75	75	S	8	79
BH704	8.20	8.65	8.20	4.20	1	2	75	75	3	3	4	4	75	75	75	75	S	14	79
BH704	9.20	9.65	9.20	3.61	4	4	75	75	4	3	3	4	75	75	75	75	S	14	79
BH704	10.20	10.65	10.20	3.30	2	2	75	75	2	2	2	2	75	75	75	75	S	8	79
BH704	11.70	12.15	10.20	3.37	1	0	75	75	1	1	2	2	75	75	75	75	S	6	79
BH704	13.20	13.65	13.20	2.61	3	3	75	75	3	5	5	5	75	75	75	75	S	18	79
BH704	14.70	15.15	14.70	1.47	3	3	75	75	5	5	6	8	75	75	75	75	S	24	79
BH704	16.20	16.65	16.20	3.38	2	3	75	75	3	5	5	5	75	75	75	75	S	18	79
BH704	17.70	18.15	17.70	5.14	4	5	75	75	7	7	6	7	75	75	75	75	S	27	79
BH704	19.20	19.65	19.20	4.34	1	2	75	75	4	6	7	7	75	75	75	75	S	24	79
BH704	20.20	20.65	19.20	4.28	2	5	75	75	5	6	5	5	75	75	75	75	S	21	79
BH705	1.20	1.65	Nil	Dry	4	6	75	75	8	6	5	4	75	75	75	75	S	23	79
BH705	2.20	2.65	Nil	Dry	5	5	75	75	5	4	4	3	75	75	75	75	S	16	79
BH705	3.20	3.65	Nil	Dry	3	3	75	75	4	4	3	3	75	75	75	75	S	14	79
BH705	5.20	5.65	4.20	1.04	1	1	75	75	0	1	1	2	75	75	75	75	S	4	79
BH705	6.20	6.65	6.20	1.09	1	0	75	75	1	1	1	1	75	75	75	75	S	4	79
BH705	7.20	7.65	7.20	1.06	1	1	75	75	1	1	1	2	75	75	75	75	S	5	79
BH705	8.20	8.65	8.20	1.34	1	1	75	75	2	2	1	2	75	75	75	75	S	7	79
BH705	9.20	9.65	9.20	1.24	3	2	75	75	3	3	3	3	75	75	75	75	S	12	79

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)						
					blows	pen (mm)	blows	pen (mm)											
BH705	10.20	10.65	10.20	1.54	3	3	75	75	2	3	3	2	75	75	75	75	S	10	79
BH705	11.70	12.15	11.70	1.45	4	4	75	75	4	3	3	4	75	75	75	75	S	14	79
BH705	13.20	13.65	13.20	1.59	2	2	75	75	3	3	3	3	75	75	75	75	S	12	79
BH705	14.70	15.15	14.70	1.61	4	4	75	75	5	4	4	4	75	75	75	75	S	17	79
BH705	16.20	16.65	16.20	1.74	7	7	75	75	7	5	6	5	75	75	75	75	S	23	79
BH705	17.70	18.15	17.70	2.17	6	6	75	75	7	7	6	7	75	75	75	75	S	27	79
BH705	18.30	18.68	17.70	2.14	25		75		10	10	10	9	75	75	75	75	C	39	79
BH705	19.80	20.25	19.80	2.20	4	4	75	75	4	4	7	6	75	75	75	75	S	21	79
BH706	1.20	1.65	Nil	Dry	2	2	75	75	2	2	2	3	75	75	75	75	S	9	79
BH706	2.20	2.65	Nil	Dry	2	3	75	75	3	3	3	3	75	75	75	75	S	12	79
BH706	3.20	3.65	Nil	Dry	3	3	75	75	3	3	4	5	75	75	75	75	S	15	79
BH706	4.20	4.65	Nil	Dry	3	3	75	75	4	4	5	4	75	75	75	75	S	17	79
BH706	5.20	5.65	Nil	Dry	7	9	75	75	9	9	9	8	75	75	75	75	S	35	79
BH706	6.20	6.65	6.20	1.59	2	2	75	75	6	8	6	7	75	75	75	75	S	27	79
BH706	7.20	7.65	7.20	4.16	4	6	75	75	7	6	7	7	75	75	75	75	S	27	79
BH706	8.20	8.65	8.20	4.57	1	1	75	75	0	1	1	0	75	75	75	75	S	2	79
BH706	9.20	9.65	9.20	4.36	2	1	75	75	2	2	3	2	75	75	75	75	S	9	79
BH706	10.20	10.65	10.20	4.71	2	4	75	75	3	3	4	3	75	75	75	75	S	13	79
BH706	11.70	12.15	11.70	4.87	2	2	75	75	4	2	2	3	75	75	75	75	S	11	79
BH706	13.20	13.65	13.20	5.24	2	2	75	75	1	2	3	2	75	75	75	75	S	8	79
BH706	14.70	15.15	14.70	6.44	2	2	75	75	3	4	4	4	75	75	75	75	S	15	79
BH706	16.20	16.65	16.20	6.18	1	1	75	75	2	1	5	4	75	75	75	75	S	12	79
BH706	17.70	18.15	17.70	6.53	3	4	75	75	5	4	4	4	75	75	75	75	S	17	79
BH706	19.20	19.65	19.20	6.41	4	4	75	75	5	5	5	6	75	75	75	75	S	21	79

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>



# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)
					blows	pen (mm)	blows	pen (mm)					
BH706	20.70	21.15	20.70	6.74	2 3	75 75	5 7 8 10	75 75 75 75	S	30	79		
BH706	22.20	22.65	22.20	6.61	8 9	75 75	10 13 16 21	75 75 75 75	S	60	79		
BH706	24.00	24.45	24.00	7.45	4 5	75 75	8 10 14 13	75 75 75 75	S	45	79		
BH706	25.50	25.95	25.45	7.36	6 7	75 75	8 11 14 14	75 75 75 75	S	47	79		
BH706	28.30	28.75	26.60	6.21	6 5	75 75	6 7 6 6	75 75 75 75	S	25	79		
BH706	29.80	30.25	26.60	6.24	6 6	75 75	7 7 6 7	75 75 75 75	S	27	79		
BH707	1.20	1.65	Nil	Dry	2 4	75 75	3 2 3 2	75 75 75 75	S	10	79		
BH707	2.20	2.65	Nil	Dry	1 1	75 75	1 1 1 1	75 75 75 75	S	4	79		
BH707	3.20	3.65	Nil	Dry	1 1	75 75	1 1 1 1	75 75 75 75	S	4	79		
BH707	4.20	4.65	Nil	Dry	1 1	75 75	4 8 7 5	75 75 75 75	S	24	79		
BH707	5.20	5.65	Nil	Dry	2 2	75 75	2 2 2 2	75 75 75 75	S	8	79		
BH707	6.20	6.65	6.20	1.14	2 2	75 75	2 2 2 4	75 75 75 75	S	10	79		
BH707	7.20	7.65	7.20	1.59	2 2	75 75	3 4 4 6	75 75 75 75	S	17	79		
BH707	8.20	8.65	8.20	2.41	6 8	75 75	8 10 10 13	75 75 75 75	S	41	79		
BH707	9.20	9.65	9.20	1.41	10 11	75 75	11 12 12 12	75 75 75 75	S	47	79		
BH707	10.20	10.65	10.20	4.58	6 6	75 75	10 6 5 4	75 75 75 75	S	25	79		
BH707	11.70	12.15	11.70	5.69	1 0	75 75	1 1 0 1	75 75 75 75	S	3	79		
BH707	14.70	15.15	14.70	5.60	1 1	75 75	1 2 3 5	75 75 75 75	S	11	79		
BH707	17.70	18.15	17.70	9.63	4 5	75 75	5 6 5 5	75 75 75 75	S	21	79		
BH707	19.20	19.65	19.20	8.58	2 2	75 75	4 5 5 5	75 75 75 75	S	19	79		
BH708	1.20	1.65	Nil	Dry	1 2	75 75	2 2 2 2	75 75 75 75	S	8	73		
BH708	2.20	2.65	Nil	Dry	1 1	75 75	2 2 1 1	75 75 75 75	S	6	73		
BH708	3.20	3.65	Nil	2.72	1 2	75 75	2 2 4 5	75 75 75 75	S	13	73		
BH708	4.20	4.65	Nil	3.23	1 3	75 75	4 5 5 7	75 75 75 75	S	21	73		

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)
					blows	pen (mm)	blows	pen (mm)					
BH708	6.20	6.65	Nil	4.21	2 2	75 75	4 3 4 5	75 75 75 75	S	16	73		
BH708	7.20	7.65	Nil	5.04	1 1	75 75	2 2 2 3	75 75 75 75	S	9	73		
BH708	8.20	8.65	7.20	3.30	1 1	75 75	1 2 2 2	75 75 75 75	S	7	73		
BH708	10.20	10.65	9.20	5.36	5 9	75 75	13 12 14 15	75 75 75 75	S	54	73		
BH708	11.50	11.95	11.50	1.06	7 5	75 75	4 2 3 4	75 75 75 75	S	13	73		
BH708	12.80	13.23	11.50	6.08	18 7	75 50	10 6 4 4	75 75 75 75	S	24	73		
BH708	14.30	14.75	11.50	9.96	2 2	75 75	1 1 2 2	75 75 75 75	S	6	73		
BH708	15.80	16.25	11.50	12.74	1 1	75 75	1 2 2 2	75 75 75 75	S	7	73		
BH708	17.30	17.75	11.50	15.58	2 3	75 75	3 2 4 4	75 75 75 75	S	13	73		
BH708	18.80	19.25	11.50	15.55	4 4	75 75	5 7 8 9	75 75 75 75	S	29	73		
BH708	20.30	20.75	11.50	15.55	7 7	75 75	8 6 7 7	75 75 75 75	S	28	73		
BH708	21.50	21.95	20.20	15.50	5 13	75 75	9 14 12 9	75 75 75 75	S	44	73		
BH708	22.80	23.25	20.20	15.50	6 5	75 75	5 7 9 10	75 75 75 75	S	31	73		
BH708	24.30	24.75	22.80	15.55	5 8	75 75	8 7 9 9	75 75 75 75	S	33	73		
BH708	26.50	26.95	24.95	14.98	2 6	75 75	8 9 10 10	75 75 75 75	S	37	73		
BH708	28.00	28.45	24.95	15.55	5 3	75 75	10 16 18 19	75 75 75 75	S	63	73		
BH708	29.50	29.95	29.50	15.50	5 9	75 75	12 13 19 15	75 75 75 75	S	59	73		
WS101	1.20	1.65	Nil	Dry	2 5	75 75	4 4 4 4	75 75 75 75	S	16	73		
WS101	3.00	3.45	3.00	Dry	1 0	75 75	1 1 1 1	75 75 75 75	S	4	73		
WS101	4.45	4.90	4.00	4.10	3 3	75 75	3 4 4 4	75 75 75 75	S	15	73		
WS102	1.20	1.65	Nil	Dry	2 3	75 75	3 3 3 6	75 75 75 75	S	15	73		
WS102	3.00	3.45	3.00	Dry	1 1	75 75	1 1 2 4	75 75 75 75	S	8	73		
WS102	5.00	5.22	5.00	4.68	2 4	75 75	100	70	S	429	73		
WS202	1.20	1.65	Nil	Dry	4 6	75 75	6 8 5 5	75 75 75 75	S	24	73		

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# STANDARD PENETRATION TEST



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	borehole depth (m)	bottom depth (m)	casing depth (m)	water level (m)	seating drive		test drive				test type	N	energy ratio (%)
					blows	pen (mm)	blows	pen (mm)					
WS202	3.00	3.45	3.00	Dry	8 8	75 75	6 6 8 9	75 75 75 75	C	29	73		
WS202	4.00	4.45	3.00	Dry	4 6	75 75	6 6 8 9	75 75 75 75	S	29	73		
WS202	5.00	5.45	3.00	Dry	10 14	75 75	19 13 12 12	75 75 75 75	C	56	73		
WS202	6.00	6.45	3.00	Dry	2 7	75 75	4 4 4 4	75 75 75 75	S	16	73		
WS202	7.00	7.45	3.00	Dry	1 2	75 75	2 2 3 3	75 75 75 75	S	10	73		
WS202	8.00	8.45	3.00	Dry	6 6	75 75	7 4 5 6	75 75 75 75	S	22	73		
WS202	9.00	9.45	3.00	9.21	7 14	75 75	12 18 22 22	75 75 75 75	C	74	73		
WS202	10.00	10.45	9.00	Dry	7 8	75 75	8 6 7 6	75 75 75 75	S	27	73		
WS203	1.20	1.65	Nil	Dry	1 2	75 75	2 3 2 2	75 75 75 75	S	9	73		
WS203	3.00	3.45	3.00	2.41	1 4	75 75	4 4 5 4	75 75 75 75	S	17	73		
WS203	4.00	4.45	4.00	3.66	0 0	75 75	0 0 0 0	75 75 75 75	S	< 1	73		
WS204	1.20	1.65	Nil	Dry	2 2	75 75	3 2 4 6	75 75 75 75	S	15	73		
WS204	3.00	3.45	2.00	Dry	2 5	75 75	4 5 5 9	75 75 75 75	S	23	73		
WS204	4.00	4.45	2.00	Dry	2 3	75 75	4 3 3 3	75 75 75 75	S	13	73		
WS204	6.00	6.45	2.00	Dry	3 5	75 75	4 5 3 4	75 75 75 75	S	16	73		
WS204	7.00	7.45	2.00	Dry	8 9	75 75	7 6 3 4	75 75 75 75	C	20	73		
WS204	8.00	8.45	2.00	Dry	2 6	75 75	6 6 7 8	75 75 75 75	S	27	73		
WS204	8.90	9.07	2.00	Dry	21 4	75 5	56 44	75 15	C	333	73		
WS301	1.20	1.65	Nil	Dry	4 8	75 75	6 9 10 20	75 75 75 75	S	45	73		
WS301	1.65	1.87	Nil	Dry	25	70	45 46 9	75 75 4	C	195	73		

notes:

1. Test carried out in general accordance with BS EN ISO 22476-3:2005 + A1:2011
2. N values have not been subjected to any correction.
3. Test carried out using split spoon S, solid cone C.
4. Where full test drive not completed, linearly extrapolated N value reported.
5. <1 Denotes hammer self weight penetration (sank under own weight).
6. \*\* Denotes no effective penetration.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# TRIAL PIT LOG



## TP201

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 560201.2

Scale 1 : 25

End Date 25 June 2015 Northing 175846.8 Ground level 5.25mOD

Depth 1.90 m

water record	sample/test			description	depth (m)	level (m)	legend
	no/type	result	depth (m)				
Dry.	1D*	Vo 0.0	0.30	Off-white and light grey silty very sandy subangular fine to coarse poorly cemented silt (Possible Cement Kiln Dust), chalk, flint and concrete GRAVEL. (MADE GROUND)	0.35	4.90	
	2B		0.50	Poorly cemented light brown mottled white sandy SILT. Material Cement Kiln Dust (CKD). (MADE GROUND)			
	3D		0.50				
	4D*	Vo 0.0	0.50	Reddish brown mottled light grey, yellowish brown, black and white very sandy angular and subangular fine to coarse brick, concrete, sandstone and clinker GRAVEL with a high brick cobble content. Rare angular and subangular fine to coarse gravel sized ceramic, glass and metal fragments. Rare fragments of grey plastic ducting (up to 2x50x160mm). (MADE GROUND)	0.70	4.55	
	5D		1.00				
	6D*	Vo 0.1	1.00				
	7B		1.00	Reddish brown, yellowish brown and grey COBBLES and BOULDERS of brick and brick masonry with much angular and subangular fine to coarse brick gravel. Frequent wood fragments (up to 5x10x120mm). (MADE GROUND)	1.20	4.05	
	8B		1.50				
	9D		1.50				
	10D*	Vo 0.0	1.50	Strongly cemented grey mottled off white rough CONCRETE with rare angular and subangular fine and medium flint, sandstone and concrete gravel. (MADE GROUND)	1.60	3.65	
	11B		1.80				
	12D		1.80				
	13D*	Vo 0.3	1.80	Trial pit completed at 1.90m.	1.90	3.35	

**Notes**

Trial pit excavated by JCB 3CX mechanical excavator.  
 Groundwater not encountered.  
 Trial pit sides remained stable and vertical.  
 Trial pit terminated at 1.90m due to concrete obstruction. 30 mins attempted to excavate through with 300mm penetration.  
 Trial pit dimensions 0.60x3.20x1.90m.  
 On completion, the trial pit was backfilled with materials arising.  
 Ground protection measures employed comprising plastic sheeting and wooden boards. On completion of trial pit plastic sheeting and wooden boards washed down.

Sketch of Foundation - Not to scale. All dimensions in metres.

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:47:11 RS CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS



CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# TRIAL PIT LOG



**TP301**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 24 June 2015 Easting 559666.2

Scale 1 : 25

End Date 24 June 2015 Northing 175158.2 Ground level 7.55mOD

Depth 2.40 m

water record	sample/test			description	depth (m)	level (m)	legend
	no/type	result	depth (m)				
Dry.	1D*	Vo 0.4	0.30	Poorly cemented light grey locally dark grey and reddish brown sandy very gravelly SILT with medium cobble and boulder content of brick, brick masonry and concrete. Gravel is angular and subangular fine to coarse chalk, flint and brick (Material possible Cement Kiln Dust). (MADE GROUND)  Dark brown, black, orangish brown and off white very sandy angular and subangular fine to coarse concrete, flint and siltstone GRAVEL with a high cobble and boulder content of concrete and flint. Frequent fragments (up to 0.50x40x40mm) of black plastic coated fibrous textile. Rare angular fine and medium gravel sized glass fragments, plastic coated electric cable (up to 7mm diam), plastic (up to 1x20x160mm) and wood (up to 5x10x70mm). (MADE GROUND) 2.10m: 2 no. fragments of carpet (up to 5x200x300mm).  White and dark brown sandy silty subangular fine to coarse chalk GRAVEL. (MADE GROUND) 2.40m: Concrete slab. Trial pit completed at 2.40m.			
	2B		0.50				
	3D		0.50				
	4D*	Vo 0.0	0.50				
	5D		1.00				
	6D*	Vo 0.0	1.00				
	7B		1.00				
	8B		1.50				
	9D		1.50				
	10D*	Vo 0.0	1.50			1.70	5.85
	11D		2.00				
	12D*	Vo 0.0	2.00			2.20	5.35
	13B		2.40				
	14B		2.40				
	15D		2.40			2.40	5.15
	16D*	Vo 0.0	2.40				

**Notes**

Trial pit excavated by JCB 3CX mechanical excavator.  
 Groundwater not encountered.  
 Trial pit sides remained stable and vertical.  
 Trial pit terminated at 2.40m due to concrete obstruction.  
 Trial pit dimensions 0.60x3.50x2.40m.  
 On completion, the trial pit was backfilled with materials arising.  
 Ground protection measures employed comprising plastic sheeting and wooden boards. On completion of trial pit plastic sheeting and wooden boards washed down.

Sketch of Foundation - Not to scale. All dimensions in metres.

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:47:11 RS CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS



CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# TRIAL PIT LOG



**TP302**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 24 June 2015 Easting 559576.3

Scale 1 : 25

End Date 24 June 2015 Northing 175188.8 Ground level 8.25mOD

Depth 3.50 m

water record	sample/test			description	depth (m)	level (m)	legend
	no/type	result	depth (m)				
Dry.	1D*	Vo 0.1	0.30	Orangish brown, grey mottled white slightly silty very sandy subangular fine to coarse flint, chalk and weakly cemented sandy silt GRAVEL. (Material possible Cement Kiln Dust). (MADE GROUND) 0.20m: Steel reinforcement bar (12mm diamx600mm) and scaffold tube with square plate footing at one end (50mm diamx800mm).	1.20	7.05	
	2B		0.50				
	3D		0.50				
	4D*	Vo 0.2	0.50				
	5D		1.00				
	6D*	Vo 0.6	1.00				
	7B		1.50	Poorly cemented grey mottled white locally reddish brown silty very sandy subangular fine to coarse brick, concrete, flint, chalk and weakly cemented sandy silt GRAVEL with rare wood fragments (up to 2x5x10mm). (Material possible Cement Kiln Dust). (MADE GROUND)	1.60	6.65	
	8B		1.50	Poorly cemented off-white and light grey mottled black and orangish brown silty very sandy subangular fine to coarse chalk, poorly cemented silt, rarely brick, sandstone and flint GRAVEL. Rare wood fragments (up to 5x10x30mm) and rare polythene fragments (up to 1x20x20mm). (Material Possible Cement Kiln Dust) (MADE GROUND)	2.20	6.05	
	9D		1.50				
	10D*	Vo 0.4	1.50				
	11D		2.00				
	12D*	Vo 0.1	2.00	White silty subangular fine to coarse chalk GRAVEL with a high cobble and boulder content of chalk. (MADE GROUND) 2.30m: Fence post in side of pit (probable 100mm diam). 2.50m: Steel plates (up to 30x240x240mm). 2.80m: Wooden fence post fragment (75x75x300mm).	3.50	4.75	
	13B		2.50				
	14B		2.50				
	15D		2.50				
	16D*	Vo 0.1	2.50				
	17D		3.00				
	18D*	Vo 0.0	3.00	Trial pit completed at 3.50m.			
	19B		3.50				
	20D		3.50				
	21D*	Vo 0.0	3.50				

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:47:12 RS CT

**Notes**

Trial pit excavated by JCB 3CX mechanical excavator.  
Groundwater not encountered.  
Trial pit sides remained stable and vertical.  
Trial pit dimensions 0.60x2.80x3.50m.  
On completion, the trial pit was backfilled with materials arising.  
Ground protection measures employed comprising plastic sheeting and wooden boards. On completion of trial pit plastic sheeting and wooden boards washed down.

Sketch of Foundation - Not to scale. All dimensions in metres.



CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# TRIAL PIT LOG



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

**TP701**

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 561563.1

Scale 1 : 25

End Date 25 June 2015 Northing 173333.8 Ground level 6.00mOD

Depth 3.30 m

water record	sample/test			description	depth (m)	level (m)	legend	
	no/type	result	depth (m)					
Dry.	1D	Vo 0.5	0.30	Firm friable brown mottled grey and white slightly sandy gravelly silty CLAY. Gravel is subangular and subrounded fine to coarse flint, rarely subangular fine and medium chalk and brick. Rare polythene sheeting (up to 1x5x5mm). (MADE GROUND)	0.40	5.60		
	2D*		0.30					
	3B	Vo 0.3	0.50	Stiff brown mottled grey and white slightly sandy gravelly silty CLAY. Gravel is subangular and subrounded fine to coarse flint, rarely subangular fine and medium chalk and brick. (MADE GROUND)	0.90	5.10		
	4D		0.50					
	5D*		0.50					
	6D	PP 1.9	Vo 0.1	1.00	Firm friable reddish brown mottled black, yellowish brown, white and grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint, chalk and rare brick. Rare cobbles of flint and brick. Rare polythene fragments (up to 1x20x20mm). (MADE GROUND) 0.90m: Green packing tape in side of pit (1x15mm).	2.00	4.00	
	7D*	1.00						
	8B	Vo 0.5	1.50	Firm reddish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular and subangular fine to coarse flint and chalk. (MADE GROUND/REWORKED NATURAL DEPOSITS)	2.30	3.70		
	9B		1.50					
	10D		1.50					
	11D*		1.50					
	12D	H 42	Vo 0.2	2.00	Firm friable reddish brown slightly sandy silty CLAY. (MADE GROUND/REWORKED NATURAL DEPOSITS)	3.10	2.90	
	13D*	2.00						
	PP 1.7	2.00						
	14B	Vo 0.2	2.50	2.50 - 2.80m: East side of pit: Reddish brown and grey subangular fine and medium crystalline gravel surrounding black ribbed plastic drainage pipe. Pipe undamaged, running roughly north-south adjacent to east face of pit.	3.30	2.70		
	15B		2.50					
	16D		2.50					
	17D*		2.50					
	18D	Vo 0.1	3.00	Soft orangish brown mottled grey slightly sandy silty CLAY. (ALLUVIUM)	3.30	2.70		
	19D*		3.00					
	20B	Vo 0.0	3.20	Trial pit completed at 3.30m.	3.30	2.70		
	21D		3.20					
22D*	3.20							

**Notes**

Trial pit excavated by JCB 3CX mechanical excavator.  
 Groundwater not encountered.  
 Trial pit sidewalls spalling 1.00-3.30m  
 Trial pit dimensions 0.60x2.90x3.30m.  
 On completion, the trial pit was backfilled with materials arising.  
 Ground protection measures employed comprising plastic sheeting and wooden boards. On completion of trial pit plastic sheeting and wooden boards washed down.  
 Stratum names provided by the Engineer.

Sketch of Foundation - Not to scale. All dimensions in metres.

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:47:12 RS CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS



CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>

# TRIAL PIT LOG



**TP702**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

Sheet 1 of 1

Start Date 25 June 2015 Easting 561575.0

Scale 1 : 25

End Date 25 June 2015 Northing 173292.5 Ground level 5.55mOD

Depth 3.40 m

water record	sample/test			description	depth (m)	level (m)	legend
	no/type	result	depth (m)				
Dry.				Firm friable orangish brown slightly sandy silty CLAY with frequent rootlets. (MADE GROUND)			
	1D*	Vo 0.2	0.30				
	2B		0.50	0.40 - 0.70m: Reddish brown with rare subangular fine and medium chalk and flint gravel.			
	3D		0.50				
	4D*	Vo 0.1	0.50	0.70 - 0.80m: Slightly gravelly. Gravel is subangular fine to coarse chalk.	0.90	4.65	
	5D		1.00	Orangish brown silty gravelly fine SAND. Gravel is subangular fine to coarse crystalline. (MADE GROUND)	1.10	4.45	
	6D*	Vo 0.2	1.00	Firm dark grey mottled orangish brown and light grey slightly sandy slightly gravelly silty CLAY with a medium brick cobble content. Gravel is subangular fine to coarse flint and brick. Frequent tree branches (up to 70 diam x 800mm). Strong hydrocarbon odour. (MADE GROUND)			
	7B		1.50		1.60	3.95	
	8B		1.50				
	9D		1.50	Firm friable reddish brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine and medium chalk. Frequent roots (up to 3mm diam). (MADE GROUND)			
	10D*	Vo 0.1	1.50		2.00	3.55	
	11D		2.00	Firm reddish brown slightly sandy silty CLAY. (MADE GROUND/REWORKED NATURAL DEPOSITS)			
	12D*	Vo 0.0	2.00				
	13B		2.50	2.40 - 2.70m: East end of pit: Reddish brown and grey subangular fine and medium crystalline gravel surrounding black ribbed plastic drainage pipe. Pipe undamaged, running roughly north-south adjacent to east end of pit.			
	14B		2.50				
	15D		2.50				
	16D*	Vo 0.0	2.50	Firm orangish brown mottled grey slightly sandy silty CLAY. Rare roots (up to 4mm diam). (ALLUVIUM)	2.80	2.75	
	17B	H 43	3.00				
	18D	PP 1.8	3.00				
	19D*	Vo 0.0	3.00	3.20 - 3.40m: Friable.			
	20B		3.40				
	21D		3.40		3.40	2.15	
22D*	Vo 0.0	3.40	Trial pit completed at 3.40m.				

**Notes**

Trial pit excavated by JCB 3CX mechanical excavator.  
 Groundwater not encountered.  
 Trial pit sides remained stable and vertical.  
 Trial pit dimensions 0.60x3.40x3.40m.  
 On completion, the trial pit was backfilled with materials arising.  
 Ground protection measures employed comprising plastic sheeting and wooden boards. on completion of trial pit plastic sheeting and wooden boards washed down.  
 Stratum names provided by the Engineer.

Sketch of Foundation - Not to scale. All dimensions in metres.

Geotechnical Engineering Ltd. Tel. 01452 527743 30766 MASTER.GPJ TRIAL\JH.GPJ GEOTECH M25 GLB 19/10/2015 10:47:13 RS CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS



CONTRACT	CHECKED
<b>30766</b>	<b>EC</b>



# PERMEABILITY TEST - VARIABLE HEAD



CLIENT LONDON PARAMOUNT RESORT HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

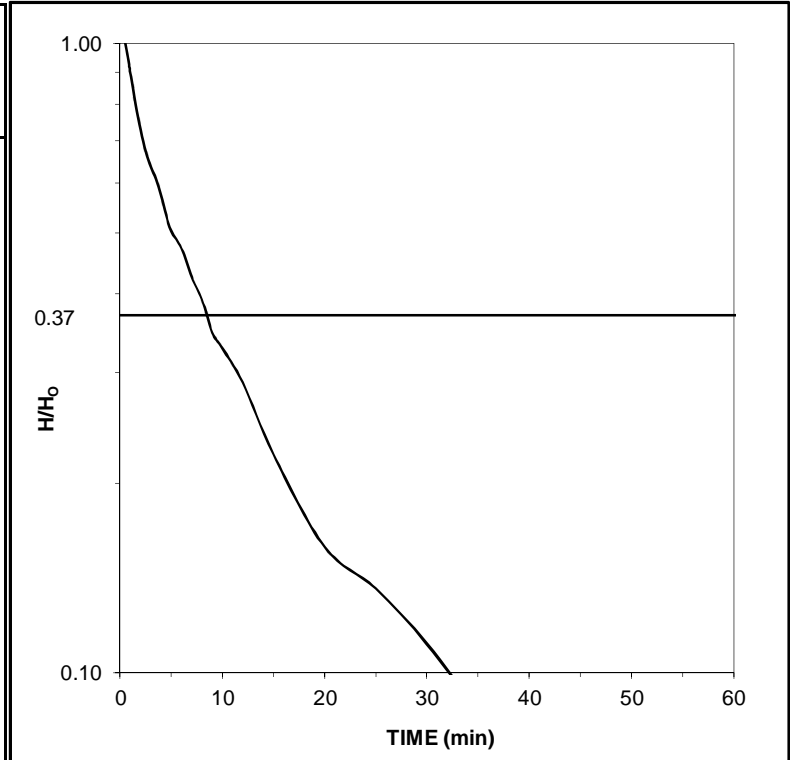
BOREHOLE **BH202**

**DEPTH RECORD**

DEPTH OF BOREHOLE	24.00 m	BOREHOLE DIAMETER IN TEST SECTION	0.13 m
DEPTH TO BASE OF CASING	23.00 m	DIAMETER OF CASING	0.15 m
TEST INTERVAL	1.00 m		
HEIGHT OF DATUM ABOVE GROUND LEVEL	0.65 m	TYPE OF TEST	FALLING
DEPTH TO STANDING WATER BELOW DATUM	4.25 m	DATE	15/06/2015

**TEST RECORD**

ELAPSED TIME (min)	DEPTH TO WATER BELOW DATUM (m)	HEAD (m) H	H/H <sub>0</sub>
0.50	0.65	3.60	1.00
0.75	0.83	3.42	0.95
1.00	1.03	3.22	0.89
1.50	1.37	2.88	0.80
2.00	1.63	2.62	0.73
2.50	1.83	2.42	0.67
3.00	1.96	2.29	0.64
3.50	2.06	2.19	0.61
4.00	2.19	2.06	0.57
4.50	2.33	1.92	0.53
5.00	2.44	1.81	0.50
6.00	2.55	1.70	0.47
7.00	2.72	1.53	0.43
8.00	2.84	1.41	0.39
9.00	3.00	1.25	0.35
10.00	3.07	1.18	0.33
12.00	3.21	1.04	0.29
15.00	3.45	0.80	0.22
20.00	3.68	0.57	0.16
25.00	3.76	0.49	0.14
30.00	3.85	0.40	0.11
35.00	3.94	0.31	0.09
40.00	4.02	0.23	0.06
45.00	4.07	0.18	0.05
50.00	4.11	0.14	0.04
55.00	4.12	0.13	0.04
60.00	4.13	0.12	0.03



Time lag method  $k = \frac{A}{FT}$

General approach method  $k = \frac{A}{F(t_2 - t_1)} \log_e \frac{H_1}{H_2}$

BS 5930 Fig 6, intake factor based on case   **B**  

**RESULTS**

TIME LAG METHOD		GENERAL APPROACH METHOD	
Cross sectional area of casing, A	<b>0.0181</b> m <sup>2</sup>	Cross sectional area of casing, A	<b>0.0181</b> m <sup>2</sup>
Intake factor, F	<b>0.352</b> m	Intake factor, F	<b>0.352</b> m
Time lag, T	s	Variable head, H <sub>1</sub>	m at time, t <sub>1</sub>
		Variable head, H <sub>2</sub>	m at time, t <sub>2</sub>
<b>Permeability, k</b>	<b>NIL</b> ms <sup>-1</sup>	<b>Permeability, k</b>	<b>NIL</b> ms <sup>-1</sup>

**REMARKS**

	<b>CONTRACT</b>	<b>CHECKED</b>
	<b>30766</b>	

SD/Ele

# PERMEABILITY TEST - VARIABLE HEAD



CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

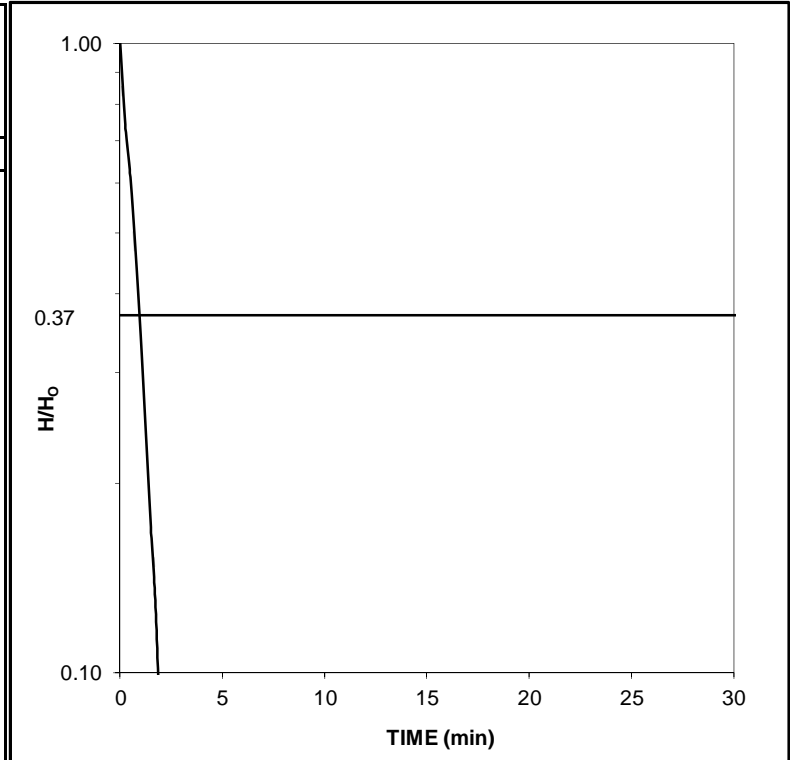
BOREHOLE BH203

**DEPTH RECORD**

DEPTH OF BOREHOLE	17.00 m	BOREHOLE DIAMETER IN TEST SECTION	0.13 m
DEPTH TO BASE OF CASING	16.00 m	DIAMETER OF CASING	0.15 m
TEST INTERVAL	1.00 m		
HEIGHT OF DATUM ABOVE GROUND LEVEL	0.55 m	TYPE OF TEST	FALLING
DEPTH TO STANDING WATER BELOW DATUM	3.23 m	DATE	30/06/2015

**TEST RECORD**

ELAPSED TIME (min)	DEPTH TO WATER BELOW DATUM (m)	HEAD (m) H	H/H <sub>0</sub>
0.00	0.00	3.23	1.00
0.25	0.83	2.40	0.74
0.50	1.25	1.98	0.61
0.75	1.72	1.51	0.47
1.00	2.12	1.11	0.34
1.25	2.45	0.78	0.24
1.50	2.68	0.55	0.17
1.75	2.83	0.40	0.12
2.00	3.00	0.23	0.07
2.25	3.08	0.15	0.05
2.50	3.15	0.08	0.02
2.75	3.20	0.03	0.01
3.00	3.23	0.00	0.00
3.25	3.23	0.00	0.00
3.50	3.23	0.00	0.00
4.50	3.23	0.00	0.00
5.50	3.23	0.00	0.00
10.00	3.23	0.00	0.00
15.00	3.23	0.00	0.00
20.00	3.23	0.00	0.00
25.00	3.23	0.00	0.00
30.00	3.23	0.00	0.00



Time lag method  $k = \frac{A}{FT}$

General approach method  $k = \frac{A}{F(t_2 - t_1)} \log_e \frac{H_1}{H_2}$

BS 5930 Fig 6, intake factor based on case  D

**RESULTS**

TIME LAG METHOD		GENERAL APPROACH METHOD	
Cross sectional area of casing, A	0.0177 m <sup>2</sup>	Cross sectional area of casing, A	0.0177 m <sup>2</sup>
Intake factor, F	2.282 m	Intake factor, F	2.282 m
Time lag, T	80 s	Variable head, H <sub>1</sub>	2.40 m at time, t <sub>1</sub> 15 s
		Variable head, H <sub>2</sub>	0.23 m at time, t <sub>2</sub> 120 s
<b>Permeability, k</b>	<b>9.68E-05 ms<sup>-1</sup></b>	<b>Permeability, k</b>	<b>1.73E-04 ms<sup>-1</sup></b>

**REMARKS**

Borehole open to 17.00m following test.  
 Approximate tide height during test period: 2.30 ebbing to 2.00m.

Source: <http://tides.willyweather.co.uk/london-and-south-east-england/kent/river-thames----broadness.html>

CONTRACT	CHECKED
<b>30766</b>	

SD/Ele

# PERMEABILITY TEST - VARIABLE HEAD



CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

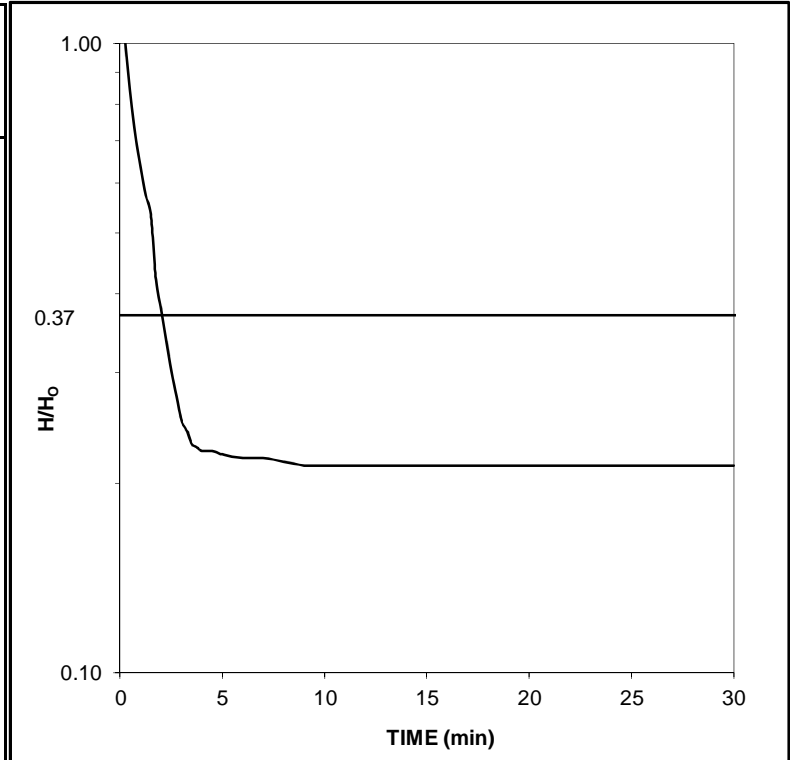
BOREHOLE **BH204**

**DEPTH RECORD**

DEPTH OF BOREHOLE	15.00 m	BOREHOLE DIAMETER IN TEST SECTION	0.13 m
DEPTH TO BASE OF CASING	14.00 m	DIAMETER OF CASING	0.15 m
TEST INTERVAL	1.00 m		
HEIGHT OF DATUM ABOVE GROUND LEVEL	0.52 m	TYPE OF TEST	FALLING
DEPTH TO STANDING WATER BELOW DATUM	4.04 m	DATE	25/06/2015

**TEST RECORD**

ELAPSED TIME (min)	DEPTH TO WATER BELOW DATUM (m)	HEAD (m) H	H/H <sub>0</sub>
0.25	0.62	3.42	1.00
0.50	1.21	2.83	0.83
0.75	1.61	2.43	0.71
1.00	1.87	2.17	0.63
1.25	2.08	1.96	0.57
1.50	2.21	1.83	0.54
1.75	2.60	1.44	0.42
2.00	2.75	1.29	0.38
2.25	2.89	1.15	0.34
2.50	3.01	1.03	0.30
2.75	3.10	0.94	0.27
3.00	3.18	0.86	0.25
3.25	3.21	0.83	0.24
3.50	3.25	0.79	0.23
3.75	3.26	0.78	0.23
4.00	3.27	0.77	0.23
4.50	3.27	0.77	0.23
5.00	3.28	0.76	0.22
6.00	3.29	0.75	0.22
7.00	3.29	0.75	0.22
8.00	3.30	0.74	0.22
9.00	3.31	0.73	0.21
10.00	3.31	0.73	0.21
15.00	3.31	0.73	0.21
20.00	3.31	0.73	0.21
25.00	3.31	0.73	0.21
30.00	3.31	0.73	0.21



Time lag method  $k = \frac{A}{FT}$

General approach method  $k = \frac{A}{F(t_2 - t_1)} \log_e \frac{H_1}{H_2}$

BS 5930 Fig 6, intake factor based on case  D

**RESULTS**

TIME LAG METHOD		GENERAL APPROACH METHOD	
Cross sectional area of casing, A	<b>0.0181</b> m <sup>2</sup>	Cross sectional area of casing, A	<b>0.0181</b> m <sup>2</sup>
Intake factor, F	<b>2.282</b> m	Intake factor, F	<b>2.282</b> m
Time lag, T	<b>120</b> s	Variable head, H <sub>1</sub>	<b>3.42</b> m at time, t <sub>1</sub> <b>15</b> s
		Variable head, H <sub>2</sub>	<b>0.79</b> m at time, t <sub>2</sub> <b>210</b> s
<b>Permeability, k</b>	<b>6.63E-05</b> ms <sup>-1</sup>	<b>Permeability, k</b>	<b>5.97E-05</b> ms <sup>-1</sup>

**REMARKS**

Borehole open to 14.80m following test.  
 Tide height during test period: 1.60m.

Source: <http://tides.willyweather.co.uk/london-and-south-east-england/kent/river-thames----broadness.html>

CONTRACT	CHECKED
<b>30766</b>	

SD/Ele

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH101	15/07/15 09:00:00	1019	-0.28								0.0	20		
BH101	15/07/15 09:01:00										0.0			
BH101	15/07/15 09:02:00										0.0			
BH101	15/07/15 09:03:00										0.0			
BH101	15/07/15 09:04:00										0.0			
BH101	15/07/15 09:05:00			0.0	0.3	20.4	5.0	0	2	3.5				
BH101	15/07/15 09:06:00			0.0	0.3	20.4	4.0	0	3	3.1				
BH101	15/07/15 09:07:00			0.0	0.2	20.4	3.0	0	4	2.9				
BH101	15/07/15 09:08:00			0.0	0.2	20.4	3.0	0	6	2.8				
BH101	15/07/15 09:09:00			0.0	0.1	20.4	2.0	0	6	2.5				
BH101	15/07/15 09:10:00			0.0	0.1	20.4	1.0	0	7	2.3				
BH101	15/07/15 09:11:00			0.0	0.1	20.3	1.0	0	7	2.2				
BH101	15/07/15 09:12:00			0.0	0.1	20.3	1.0	0	8	2.2				
BH101	15/07/15 09:13:00			0.0	0.1	20.3	1.0	0	7	2.2				
BH101	15/07/15 09:14:00			0.0	0.1	20.3	1.0	0	8	2.1			5.26	
BH101	29/07/15 12:45:00	1009	0								0.0	18		
BH101	29/07/15 12:46:00										0.0			
BH101	29/07/15 12:47:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH101	29/07/15 12:48:00										0.0			
BH101	29/07/15 12:49:00										0.0			
BH101	29/07/15 12:50:00			0.6	5.3	18.5	>>>	0	0	0.0				
BH101	29/07/15 12:51:00			0.4	3.5	19.0	70.0	0	0	0.0				
BH101	29/07/15 12:52:00			0.4	3.2	19.1	64.0	0	0	0.0				
BH101	29/07/15 12:53:00			0.4	2.9	19.2	58.0	0	0	0.0				
BH101	29/07/15 12:54:00			0.3	2.4	19.3	48.0	0	0	0.0				
BH101	29/07/15 12:55:00			0.3	2.3	19.3	46.0	0	0	0.0				
BH101	29/07/15 12:56:00			0.3	2.3	19.3	44.0	0	0	0.0				
BH101	29/07/15 12:57:00												3.99	
BH101	12/08/15 09:30:00	1020	0								0.0	19		
BH101	12/08/15 09:31:00										0.0			
BH101	12/08/15 09:32:00										0.0			
BH101	12/08/15 09:33:00										0.0			
BH101	12/08/15 09:34:00										0.0			
BH101	12/08/15 09:35:00			0.0	0.0	20.5	0.0	0	0	1.8				
BH101	12/08/15 09:36:00			0.0	0.0	20.5	0.0	0	0	1.6				
BH101	12/08/15 09:37:00			0.0	0.0	20.5	0.0	0	0	1.4				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH101	12/08/15 09:38:00			0.0	0.0	20.5	0.0	0	0	1.2				
BH101	12/08/15 09:39:00			0.0	0.0	20.5	0.0	0	0	1.2				
BH101	12/08/15 09:40:00			0.0	0.0	20.5	0.0	0	0	1.1				
BH101	12/08/15 09:41:00			0.0	0.0	20.5	0.0	0	0	1.1				
BH101	12/08/15 09:42:00			0.0	0.0	20.5	0.0	0	0	1.0				
BH101	12/08/15 09:43:00			0.0	0.0	20.5	0.0	0	0	0.9				
BH101	12/08/15 09:44:00			0.0	0.0	20.5	0.0	0	0	0.9			4.98	
BH101	26/08/15 16:15:00	999										17		
BH101	26/08/15 16:16:00		0								0.0			
BH101	26/08/15 16:17:00		-2								-0.6			
BH101	26/08/15 16:18:00		-1								-0.3			
BH101	26/08/15 16:19:00		0								0.0			
BH101	26/08/15 16:20:00		0								0.0			
BH101	26/08/15 16:21:00			0.0	0.0	20.6	0.0	0	0	0.0				
BH101	26/08/15 16:22:00			0.0	0.0	20.6	0.0	0	0	0.0				
BH101	26/08/15 16:23:00			0.0	0.0	20.6	0.0	0	0	0.0				
BH101	26/08/15 16:24:00			0.0	0.0	20.6	0.0	0	0	0.0				
BH101	26/08/15 16:25:00			0.0	0.0	20.6	0.0	0	0	0.0				Stable readings
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH101	26/08/15 16:26:00												5.04	
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks			
BH201	15/07/15 12:45:00	1016	0.63								0.0	23					
BH201	15/07/15 12:46:00			0.0	0.1	15.7	1.0	0	1	4.9							
BH201	15/07/15 12:47:00			0.0	0.0	15.7	0.0	0	0	4.7							
BH201	15/07/15 12:48:00			0.0	0.0	15.7	0.0	0	1	4.5							
BH201	15/07/15 12:49:00			0.0	0.0	15.7	0.0	0	0	4.3							
BH201	15/07/15 12:50:00			0.0	0.0	15.7	0.0	0	0	4.1							
BH201	15/07/15 12:51:00			0.0	0.0	15.7	0.0	0	0	3.9							
BH201	15/07/15 12:52:00			0.0	0.0	15.8	0.0	0	0	3.5							
BH201	15/07/15 12:53:00			0.0	0.0	15.8	0.0	0	0	3.2							
BH201	15/07/15 12:54:00			0.0	0.0	15.9	0.0	0	0	3.0							
BH201	15/07/15 12:55:00			0.0	0.0	15.9	0.0	0	0	2.8							
BH201	15/07/15 12:56:00														3.83		
BH201	29/07/15 09:30:00			1002											16		
BH201	29/07/15 09:31:00												0.0				
BH201	29/07/15 09:32:00												0.0				

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH201	29/07/15 09:33:00										0.4			
BH201	29/07/15 09:34:00										0.0			
BH201	29/07/15 09:35:00										0.0			
BH201	29/07/15 09:36:00			0.0	0.0	15.4	0.0	0	0	0.0				
BH201	29/07/15 09:37:00			0.0	0.0	15.2	0.0	0	0	0.0				
BH201	29/07/15 09:38:00			0.0	0.0	15.1	0.0	0	0	0.0				
BH201	29/07/15 09:39:00			0.0	0.0	15.0	0.0	0	0	0.0				
BH201	29/07/15 09:40:00			0.0	0.0	15.1	0.0	0	0	0.0				
BH201	29/07/15 09:41:00			0.0	0.0	15.4	0.0	0	0	0.0				
BH201	29/07/15 09:42:00			0.0	0.0	15.3	0.0	0	0	0.0				
BH201	29/07/15 09:43:00			0.0	0.0	15.4	0.0	0	0	0.0				
BH201	29/07/15 09:44:00			0.0	0.0	15.3	0.0	0	0	0.0				
BH201	29/07/15 09:45:00			0.0	0.0	15.4	0.0	0	0	0.0				
BH201	29/07/15 09:46:00												3.81	
BH201	12/08/15 13:00:00	1020	0								0.0	19		
BH201	12/08/15 13:01:00										0.0			
BH201	12/08/15 13:02:00										0.0			
BH201	12/08/15 13:03:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH201	12/08/15 13:04:00										0.0			
BH201	12/08/15 13:05:00			0.0	0.0	19.9	0.0	0	0	1.6				
BH201	12/08/15 13:06:00			0.0	0.0	16.8	0.0	0	0	1.6				
BH201	12/08/15 13:07:00			0.0	0.0	16.6	0.0	0	0	1.6				
BH201	12/08/15 13:08:00			0.0	0.0	16.5	0.0	0	0	1.6				
BH201	12/08/15 13:09:00			0.0	0.0	16.4	0.0	0	0	1.6				
BH201	12/08/15 13:10:00			0.0	0.0	16.3	0.0	0	0	1.6				
BH201	12/08/15 13:11:00			0.0	0.0	16.3	0.0	0	0	1.6				
BH201	12/08/15 13:12:00			0.0	0.0	16.2	0.0	0	0	1.6				
BH201	12/08/15 13:13:00			0.0	0.0	15.9	0.0	0	0	1.5				
BH201	12/08/15 13:14:00			0.0	0.0	16.1	0.0	0	0	1.5			3.92	
BH201	26/08/15 14:40:00	1000	0									17		
BH201	26/08/15 14:41:00		0								0.0			
BH201	26/08/15 14:42:00		-1								-0.3			
BH201	26/08/15 14:43:00		0								0.0			
BH201	26/08/15 14:44:00		0								0.0			
BH201	26/08/15 14:45:00		0								0.0			
BH201	26/08/15 14:46:00			0.0	0.0	15.9	0.0	0	0	0.0				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH201	26/08/15 14:47:00			0.0	0.0	15.9	0.0	0	0	0.0				
BH201	26/08/15 14:48:00			0.0	0.0	15.8	0.0	0	0	0.0				
BH201	26/08/15 14:49:00			0.0	0.0	15.8	0.0	0	0	0.0				
BH201	26/08/15 14:50:00			0.0	0.0	15.7	0.0	0	0	0.0				
BH201	26/08/15 14:51:00			0.0	0.0	15.6	0.0	0	0	0.0				
BH201	26/08/15 14:52:00			0.0	0.0	15.6	0.0	0	0	0.0				
BH201	26/08/15 14:53:00			0.0	0.0	15.5	0.0	0	0	0.0				
BH201	26/08/15 14:54:00			0.0	0.0	15.5	0.0	0	0	0.0				
BH201	26/08/15 14:55:00			0.0	0.0	15.5	0.0	0	0	0.0				
BH201	26/08/15 14:56:00												3.90	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH202	25/06/15 11:30:00												3.39	
BH202	14/07/15 14:20:00	1019									0.0	20		
BH202	14/07/15 14:21:00										0.0			
BH202	14/07/15 14:22:00										0.0			
BH202	14/07/15 14:23:00										0.0			
BH202	14/07/15 14:24:00										0.0			
BH202	14/07/15 14:25:00			0.0	0.1	18.8	0.0	0	0	4.5				
BH202	14/07/15 14:26:00			0.0	0.1	18.7	0.0	0	0	4.5				
BH202	14/07/15 14:27:00			0.0	0.1	18.7	0.0	0	0	4.0				
BH202	14/07/15 14:28:00			0.0	0.1	18.6	0.0	0	0	3.6				
BH202	14/07/15 14:29:00			0.0	0.1	18.7	0.0	0	0	3.3				
BH202	14/07/15 14:30:00			0.0	0.1	18.7	0.0	0	0	3.1				
BH202	14/07/15 14:31:00			0.0	0.1	18.7	0.0	0	0	2.9				
BH202	14/07/15 14:32:00			0.0	0.1	18.7	0.0	0	0	2.7				
BH202	14/07/15 14:33:00			0.0	0.1	18.7	0.0	0	0	2.6				
BH202	14/07/15 14:34:00			0.0	0.1	18.7	0.0	0	0	2.5				
BH202	14/07/15 14:35:00												3.39	
BH202	29/07/15 09:45:00	1010	0								0.0	18		

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH202	29/07/15 09:46:00										0.0			
BH202	29/07/15 09:47:00										0.0			
BH202	29/07/15 09:48:00										0.0			
BH202	29/07/15 09:49:00										0.0			
BH202	29/07/15 09:50:00			0.0	0.0	19.6	0.0	0	0	0.0				
BH202	29/07/15 09:51:00			0.0	0.0	19.6	0.0	0	0	0.0				
BH202	29/07/15 09:52:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	29/07/15 09:53:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	29/07/15 09:54:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	29/07/15 09:55:00												3.85	
BH202	12/08/15 10:00:00	1018	-0.23								0.0	21		
BH202	12/08/15 10:01:00										0.0			
BH202	12/08/15 10:02:00										0.0			
BH202	12/08/15 10:03:00										0.0			
BH202	12/08/15 10:04:00										0.0			
BH202	12/08/15 10:05:00			0.0	0.0	20.5	0.0	0	0	2.1				
BH202	12/08/15 10:06:00			0.0	0.0	20.5	0.0	0	0	1.9				
BH202	12/08/15 10:07:00			0.0	0.0	20.5	0.0	0	0	1.9				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH202	12/08/15 10:08:00			0.0	0.0	20.5	0.0	0	0	1.7				
BH202	12/08/15 10:09:00			0.0	0.0	20.5	0.0	0	0	1.5				
BH202	12/08/15 10:10:00			0.0	0.0	20.5	0.0	0	0	1.4				
BH202	12/08/15 10:11:00			0.1	0.0	20.5	0.0	0	1	1.4				
BH202	12/08/15 10:12:00			0.1	0.0	20.5	0.0	0	1	1.4				
BH202	12/08/15 10:13:00			0.1	0.0	20.5	0.0	0	1	1.3				
BH202	12/08/15 10:14:00			0.0	0.0	20.5	0.0	0	0	1.3			3.29	
BH202	26/08/15 15:00:00	1002	0								0.0	13		
BH202	26/08/15 15:01:00										0.0			
BH202	26/08/15 15:02:00										0.0			
BH202	26/08/15 15:03:00										0.0			
BH202	26/08/15 15:04:00										0.0			
BH202	26/08/15 15:05:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	26/08/15 15:06:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	26/08/15 15:07:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	26/08/15 15:08:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH202	26/08/15 15:09:00			0.0	0.0	19.7	0.0	0	0	0.0				STABLE READINGS
BH202	26/08/15 15:10:00												3.69	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH203	15/07/15 11:45:00	1017	0.32								0.0	23		
BH203	15/07/15 11:46:00										0.0			
BH203	15/07/15 11:47:00										0.0			
BH203	15/07/15 11:48:00										0.0			
BH203	15/07/15 11:49:00										0.0			
BH203	15/07/15 11:50:00			0.4	0.0	17.9	0.0	0	19	6.5				
BH203	15/07/15 11:51:00			0.4	0.0	18.0	0.0	0	18	6.6				
BH203	15/07/15 11:52:00			0.4	0.0	18.2	0.0	0	17	6.1				
BH203	15/07/15 11:53:00			0.4	0.0	18.2	0.0	0	17	6.2				
BH203	15/07/15 11:54:00			0.3	0.0	18.1	0.0	0	16	6.1				
BH203	15/07/15 11:55:00			0.3	0.0	18.1	0.0	0	15	6.0				
BH203	15/07/15 11:56:00			0.3	0.0	18.1	0.0	0	15	5.9				
BH203	15/07/15 11:57:00			0.3	0.0	18.1	0.0	0	14	5.7				
BH203	15/07/15 11:58:00			0.3	0.0	18.1	0.0	0	13	5.3				
BH203	15/07/15 11:59:00			0.3	0.0	18.1	0.0	0	13	5.6			2.37	
BH203	29/07/15 08:30:00	1008	0								0.0	18		
BH203	29/07/15 08:31:00										0.0			
BH203	29/07/15 08:32:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH203	29/07/15 08:33:00										0.0			
BH203	29/07/15 08:34:00										0.0			
BH203	29/07/15 08:35:00			0.1	0.0	17.1	0.0	0	0	0.0				
BH203	29/07/15 08:36:00			0.1	0.0	17.2	0.0	0	0	0.0				
BH203	29/07/15 08:37:00			0.1	0.0	17.2	0.0	0	0	0.0				
BH203	29/07/15 08:38:00			0.1	0.0	16.9	0.0	0	0	0.0				
BH203	29/07/15 08:39:00			0.1	0.0	16.5	0.0	0	0	0.0				
BH203	29/07/15 08:40:00			0.0	0.0	16.2	0.0	0	0	0.0				
BH203	29/07/15 08:41:00			0.0	0.0	15.6	0.0	0	0	0.0				
BH203	29/07/15 08:42:00			0.0	0.0	15.2	0.0	0	0	0.0				
BH203	29/07/15 08:43:00			0.0	0.0	14.9	0.0	0	0	0.0				
BH203	29/07/15 08:44:00			0.0	0.0	14.7	0.0	0	0	0.0				
BH203	29/07/15 08:45:00												2.86	
BH203	13/08/15 10:30:00	1012	0								0.0	19		
BH203	13/08/15 10:31:00										0.0			
BH203	13/08/15 10:32:00										0.0			
BH203	13/08/15 10:33:00										0.0			
BH203	13/08/15 10:34:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH203	13/08/15 10:35:00			0.0	0.0	20.2	0.0	0	0	2.5				
BH203	13/08/15 10:36:00			0.0	0.0	20.2	0.0	0	0	2.2				
BH203	13/08/15 10:37:00			0.0	0.0	20.2	0.0	0	0	2.0				
BH203	13/08/15 10:38:00			0.0	0.0	20.3	0.0	0	0	1.6				
BH203	13/08/15 10:39:00			0.0	0.0	20.3	0.0	0	0	1.5				
BH203	13/08/15 10:40:00			0.0	0.0	20.3	0.0	0	0	1.4				
BH203	13/08/15 10:41:00			0.0	0.0	20.3	0.0	0	0	1.3				
BH203	13/08/15 10:42:00			0.0	0.0	20.3	0.0	0	0	1.2				
BH203	13/08/15 10:43:00			0.0	0.0	20.4	0.0	0	0	1.1				
BH203	13/08/15 10:44:00			0.0	0.0	20.4	0.0	0	0	1.0			2.82	
BH203	26/08/15 13:15:00	1004									0.0	13		
BH203	26/08/15 13:16:00										0.0			
BH203	26/08/15 13:17:00										0.0			
BH203	26/08/15 13:18:00										0.0			
BH203	26/08/15 13:19:00										0.0			
BH203	26/08/15 13:20:00			0.2	0.0	19.4	0.0	0	0	0.0				
BH203	26/08/15 13:21:00			0.2	0.0	19.4	0.0	0	0	0.0				
BH203	26/08/15 13:22:00			0.2	0.0	19.4	0.0	0	0	0.0				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH203	26/08/15 13:23:00			0.1	0.0	19.4	0.0	0	0	0.0				STABLE READINGS
BH203	26/08/15 13:24:00			0.1	0.0	19.4	0.0	0	0	0.0				
BH203	26/08/15 13:25:00												2.89	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH204	15/07/15 11:00:00	1018	0.92								0.0	21		
BH204	15/07/15 11:01:00										0.0			
BH204	15/07/15 11:02:00										0.0			
BH204	15/07/15 11:03:00										0.0			
BH204	15/07/15 11:04:00										0.0			
BH204	15/07/15 11:05:00			1.2	0.5	18.1	10.0	0	4	4.7				
BH204	15/07/15 11:06:00			1.2	0.5	18.1	9.0	0	4	4.2				
BH204	15/07/15 11:07:00			1.2	0.5	18.1	9.0	0	4	3.8				
BH204	15/07/15 11:08:00			1.1	0.5	18.2	9.0	0	4	3.6				
BH204	15/07/15 11:09:00			1.1	0.5	18.2	9.0	0	4	3.5				
BH204	15/07/15 11:10:00			1.1	0.5	18.2	9.0	0	4	3.4				
BH204	15/07/15 11:11:00			1.1	0.5	18.2	9.0	0	4	3.1				
BH204	15/07/15 11:12:00			1.0	0.4	18.3	8.0	0	3	2.7				
BH204	15/07/15 11:13:00			1.0	0.4	18.3	8.0	0	4	2.7				
BH204	15/07/15 11:14:00			1.0	0.4	18.3	8.0	0	3	2.8			2.50	
BH204	29/07/15 08:32:00	990										16		
BH204	29/07/15 08:33:00										0.0			
BH204	29/07/15 08:34:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH204	29/07/15 08:35:00										0.0			
BH204	29/07/15 08:36:00										0.0			
BH204	29/07/15 08:37:00										0.0			
BH204	29/07/15 08:38:00			0.8	0.0	18.9	0.0	0	0	7.0				
BH204	29/07/15 08:39:00			0.5	0.0	19.7	0.0	0	0	6.3				
BH204	29/07/15 08:40:00			0.5	0.0	19.7	0.0	0	0	6.1				
BH204	29/07/15 08:41:00			0.7	0.0	19.3	0.0	0	0	6.1				
BH204	29/07/15 08:42:00			0.8	0.0	19.2	0.0	0	0	6.0				
BH204	29/07/15 08:43:00			0.2	0.0	20.2	0.0	0	0	5.9				
BH204	29/07/15 08:44:00			0.3	0.0	20.2	0.0	0	0	5.8				
BH204	29/07/15 08:45:00			0.4	0.0	20.0	0.0	0	0	5.7				
BH204	29/07/15 08:46:00			0.7	0.0	19.5	0.0	0	0	5.4				
BH204	29/07/15 08:47:00			0.7	0.0	19.5	0.0	0	0	5.3				
BH204	29/07/15 08:48:00												2.80	
BH204	13/08/15 09:45:00	1012	0								0.0	19		
BH204	13/08/15 09:46:00										0.0			
BH204	13/08/15 09:47:00										0.0			
BH204	13/08/15 09:48:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH204	13/08/15 09:49:00										0.0			
BH204	13/08/15 09:50:00			0.0	0.0	20.1	0.0	0	0	3.0				
BH204	13/08/15 09:51:00			0.0	0.0	20.1	0.0	0	0	2.2				
BH204	13/08/15 09:52:00			0.0	0.0	20.2	0.0	0	0	1.8				
BH204	13/08/15 09:53:00			0.0	0.0	20.2	0.0	0	0	1.5				
BH204	13/08/15 09:54:00			0.0	0.0	20.2	0.0	0	0	1.4				
BH204	13/08/15 09:55:00			0.0	0.0	20.3	0.0	0	0	1.2				
BH204	13/08/15 09:56:00			0.0	0.0	20.3	0.0	0	0	1.1				
BH204	13/08/15 09:57:00			0.0	0.0	20.3	0.0	0	0	0.9				
BH204	13/08/15 09:58:00			0.0	0.0	20.3	0.0	0	0	0.8				
BH204	13/08/15 09:59:00			0.0	0.0	20.4	0.0	0	0	0.7			3.08	
BH204	26/08/15 13:35:00	1004									0.0	13		
BH204	26/08/15 13:36:00										0.0			
BH204	26/08/15 13:37:00										0.0			
BH204	26/08/15 13:38:00										0.0			
BH204	26/08/15 13:39:00										0.0			
BH204	26/08/15 13:40:00			0.4	0.0	19.1	0.0	0	0	0.0				
BH204	26/08/15 13:41:00			0.4	0.0	19.2	0.0	0	0	0.0				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH204	26/08/15 13:42:00			0.3	0.0	19.2	0.0	0	0	0.0				STABLE READINGS
BH204	26/08/15 13:43:00			0.3	0.0	19.3	0.0	0	0	0.0				
BH204	26/08/15 13:44:00			0.3	0.0	19.3	0.0	0	0	0.0				
BH204	26/08/15 13:45:00											2.88		

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH501	15/07/15 13:45:00	1016	0.33								0.0	23		
BH501	15/07/15 13:46:00										0.0			
BH501	15/07/15 13:47:00										0.0			
BH501	15/07/15 13:48:00										0.0			
BH501	15/07/15 13:49:00										0.0			
BH501	15/07/15 13:50:00			0.1	0.0	19.1	0.0	0	3	3.4				
BH501	15/07/15 13:51:00			0.1	0.0	19.1	0.0	0	3	4.0				
BH501	15/07/15 13:52:00			0.1	0.0	19.0	0.0	0	3	4.2				
BH501	15/07/15 13:53:00			0.1	0.0	19.0	0.0	0	4	4.3				
BH501	15/07/15 13:54:00			0.1	0.0	19.0	0.0	0	4	4.4				
BH501	15/07/15 13:55:00			0.1	0.0	18.4	0.0	0	3	4.7				
BH501	15/07/15 13:56:00			0.1	0.0	17.9	0.0	0	3	4.6				
BH501	15/07/15 13:57:00			0.0	0.0	17.1	0.0	0	2	4.2				
BH501	15/07/15 13:58:00			0.0	0.0	16.1	0.0	0	2	3.6				
BH501	15/07/15 13:59:00			0.0	0.0	15.0	0.0	0	1	3.0			11.73	
BH501	28/07/15 13:20:00	1004									0.0	18		
BH501	28/07/15 13:21:00										0.0			
BH501	28/07/15 13:22:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH501	28/07/15 13:23:00										0.0			
BH501	28/07/15 13:24:00										0.0			
BH501	28/07/15 13:25:00			0.2	0.0	18.2	0.0	0	0	0.0				
BH501	28/07/15 13:26:00			0.2	0.0	18.2	0.0	0	0	0.0				
BH501	28/07/15 13:27:00			0.2	0.0	18.2	0.0	0	0	0.0				
BH501	28/07/15 13:28:00			0.2	0.0	18.1	0.0	0	0	0.0				
BH501	28/07/15 13:29:00			0.2	0.0	18.1	0.0	0	0	0.0				
BH501	28/07/15 13:30:00												11.76	
BH501	28/07/15 13:31:00													
BH501	28/07/15 13:32:00													
BH501	13/08/15 11:20:00	1012	0								0.0	20		
BH501	13/08/15 11:21:00										0.0			
BH501	13/08/15 11:22:00										0.0			
BH501	13/08/15 11:23:00										0.0			
BH501	13/08/15 11:24:00										0.0			
BH501	13/08/15 11:25:00			0.0	0.0	20.2	0.0	0	0	1.8				
BH501	13/08/15 11:26:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH501	13/08/15 11:27:00			0.0	0.0	20.2	0.0	0	0	1.6				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH501	13/08/15 11:28:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH501	13/08/15 11:29:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH501	13/08/15 11:30:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH501	13/08/15 11:31:00			0.0	0.0	20.2	0.0	0	0	1.7				
BH501	13/08/15 11:32:00			0.0	0.0	20.2	0.0	0	0	1.7				
BH501	13/08/15 11:33:00			0.0	0.0	20.2	0.0	0	0	1.7				
BH501	13/08/15 11:34:00			0.0	0.0	20.2	0.0	0	0	1.7			4.73	
BH501	26/08/15 11:45:00	1002	0								0.0	13		
BH501	26/08/15 11:46:00										0.0			
BH501	26/08/15 11:47:00										0.0			
BH501	26/08/15 11:48:00										0.0			
BH501	26/08/15 11:49:00										0.0			
BH501	26/08/15 11:50:00			0.4	0.0	19.2	0.0	0	0	0.0				
BH501	26/08/15 11:51:00			0.4	0.0	19.2	0.0	0	0	0.0				
BH501	26/08/15 11:52:00			0.4	0.0	19.2	0.0	0	0	0.0				
BH501	26/08/15 11:53:00			0.3	0.0	19.2	0.0	0	0	0.0				
BH501	26/08/15 11:54:00			0.3	0.0	19.2	0.0	0	0	0.0				STABLE READINGS
BH501	26/08/15 11:55:00												11.73	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH502	15/07/15 13:30:00	1018									0.0	24		
BH502	15/07/15 13:31:00										0.0			
BH502	15/07/15 13:32:00										0.0			
BH502	15/07/15 13:33:00										0.0			
BH502	15/07/15 13:34:00										0.0			
BH502	15/07/15 13:35:00				0.0	0.8	16.8	0.0	0	0	0.0			
BH502	15/07/15 13:36:00				0.0	1.2	15.4	0.0	0	0	0.0			
BH502	15/07/15 13:37:00				0.0	1.4	14.3	0.0	0	0	0.0			
BH502	15/07/15 13:38:00				0.0	1.5	13.9	0.0	0	0	0.0			
BH502	15/07/15 13:39:00				0.0	1.5	13.8	0.0	0	0	0.0			
BH502	15/07/15 13:40:00				0.0	1.5	13.8	0.0	0	0	0.0			
BH502	15/07/15 13:41:00				0.0	1.5	13.8	0.0	0	0	0.0			
BH502	15/07/15 13:42:00				0.0	1.5	13.8	0.0	0	0	0.0			
BH502	15/07/15 13:43:00				0.0	1.5	13.8	0.0	0	0	0.0			
BH502	15/07/15 13:44:00				0.0	1.5	13.8	0.0	0	0	0.0			
BH502	15/07/15 13:45:00											12.22		
BH502	28/07/15 13:15:00	1000										17		
BH502	28/07/15 13:16:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH502	28/07/15 13:17:00										0.0			
BH502	28/07/15 13:18:00										0.0			
BH502	28/07/15 13:19:00										0.0			
BH502	28/07/15 13:20:00										0.0			
BH502	28/07/15 13:21:00			1.0	0.0	17.4	0.0	0	0	0.0				
BH502	28/07/15 13:22:00			0.8	0.0	18.0	0.0	0	0	0.0				
BH502	28/07/15 13:23:00			0.3	0.0	19.4	0.0	0	0	0.0				
BH502	28/07/15 13:24:00			0.5	0.0	19.0	0.0	0	0	0.0				
BH502	28/07/15 13:25:00			0.8	0.0	17.9	0.0	0	0	0.0				
BH502	28/07/15 13:26:00			0.6	0.0	18.6	0.0	0	0	0.0				
BH502	28/07/15 13:27:00			0.7	0.0	18.0	0.0	0	0	0.0				
BH502	28/07/15 13:28:00			0.8	0.0	18.2	0.0	0	0	0.0				
BH502	28/07/15 13:29:00			0.8	0.0	17.5	0.0	0	0	0.0				
BH502	28/07/15 13:30:00			0.8	0.0	17.3	0.0	0	0	0.0				
BH502	28/07/15 13:31:00												12.02	
BH502	13/08/15 11:30:00	1015	-0.48								0.0	21		
BH502	13/08/15 11:31:00										0.0			
BH502	13/08/15 11:32:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH502	13/08/15 11:33:00										0.0			
BH502	13/08/15 11:34:00										0.0			
BH502	13/08/15 11:35:00			0.0	1.8	13.9	0.0	0	0	1.9				
BH502	13/08/15 11:36:00			0.0	1.8	13.9	0.0	0	0	1.6				
BH502	13/08/15 11:37:00			0.0	1.8	13.9	0.0	0	0	1.6				
BH502	13/08/15 11:38:00			0.0	1.8	13.9	0.0	0	0	1.6				
BH502	13/08/15 11:39:00			0.0	1.8	13.9	0.0	0	0	1.5				
BH502	13/08/15 11:40:00			0.0	1.8	13.9	0.0	0	0	1.5				
BH502	13/08/15 11:41:00			0.0	1.8	13.9	0.0	0	0	1.5				
BH502	13/08/15 11:42:00			0.0	1.8	13.9	0.0	0	0	1.4				
BH502	13/08/15 11:43:00			0.0	1.8	13.9	0.0	0	0	1.4				
BH502	13/08/15 11:44:00			0.0	1.8	13.9	0.0	0	0	1.4			12.09	
BH502	26/08/15 12:20:00	1002	0								0.0	13		
BH502	26/08/15 12:21:00										0.0			
BH502	26/08/15 12:22:00										0.0			
BH502	26/08/15 12:23:00										0.0			
BH502	26/08/15 12:24:00										0.0			
BH502	26/08/15 12:25:00			1.3	0.0	14.3	0.0	0	0	0.0				

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH502	26/08/15 12:26:00			1.4	0.0	13.9	0.0	0	0	0.0				
BH502	26/08/15 12:27:00			1.4	0.0	13.7	0.0	0	0	0.0				
BH502	26/08/15 12:28:00			1.5	0.0	13.5	0.0	0	0	0.0				
BH502	26/08/15 12:29:00			1.6	0.0	13.4	0.0	0	0	0.0				
BH502	26/08/15 12:30:00			1.6	0.0	13.2	0.0	0	0	0.0				
BH502	26/08/15 12:31:00			1.5	0.0	13.2	0.0	0	0	0.0				
BH502	26/08/15 12:32:00			1.6	0.0	13.3	0.0	0	0	0.0				
BH502	26/08/15 12:33:00			1.5	0.0	13.2	0.0	0	0	0.0				
BH502	26/08/15 12:34:00			1.5	0.0	13.2	0.0	0	0	0.0				
BH502	26/08/15 12:35:00												11.59	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH703	20/07/15 08:30:00	1011	0								0.0	19		
BH703	20/07/15 08:31:00										0.0			
BH703	20/07/15 08:32:00										0.0			
BH703	20/07/15 08:33:00										0.0			
BH703	20/07/15 08:34:00										0.0			
BH703	20/07/15 08:35:00			0.4	0.0	14.1	0.0	0	0	7.4				
BH703	20/07/15 08:36:00			0.4	0.0	14.0	0.0	0	0	7.5				
BH703	20/07/15 08:37:00			0.4	0.0	14.0	0.0	0	0	7.5				
BH703	20/07/15 08:38:00			0.4	0.0	14.0	0.0	0	0	6.9				
BH703	20/07/15 08:39:00			0.4	0.0	13.9	0.0	0	0	7.0				
BH703	20/07/15 08:40:00			0.4	0.0	13.9	0.0	0	0	6.8				
BH703	20/07/15 08:41:00			0.4	0.0	13.9	0.0	0	0	6.6				
BH703	20/07/15 08:42:00			0.4	0.0	13.9	0.0	0	0	6.4				
BH703	20/07/15 08:43:00			0.4	0.0	13.9	0.0	0	0	6.7				
BH703	20/07/15 08:44:00			0.4	0.0	13.8	0.0	0	0	6.8			4.77	
BH703	28/07/15 09:57:00	986										16		
BH703	28/07/15 09:58:00										0.0			
BH703	28/07/15 09:59:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH703	28/07/15 10:00:00										0.0			Stable readings
BH703	28/07/15 10:01:00										0.0			
BH703	28/07/15 10:02:00										0.0			
BH703	28/07/15 10:03:00			0.1	0.0	20.2	0.0	0	0	0.0				
BH703	28/07/15 10:04:00			0.1	0.0	20.2	0.0	0	0	0.0				
BH703	28/07/15 10:05:00			0.1	0.0	20.2	0.0	0	0	0.0				
BH703	28/07/15 10:06:00			0.1	0.0	20.2	0.0	0	0	0.0				
BH703	28/07/15 10:07:00			0.1	0.0	20.2	0.0	0	0	0.0				
BH703	28/07/15 10:08:00												4.67	
BH703	13/08/15 11:20:00	1012	0								0.0	19		
BH703	13/08/15 11:21:00										0.0			
BH703	13/08/15 11:22:00										0.0			
BH703	13/08/15 11:23:00										0.0			
BH703	13/08/15 11:24:00										0.0			
BH703	13/08/15 11:25:00			0.0	0.0	20.2	0.0	0	0	1.8				
BH703	13/08/15 11:26:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH703	13/08/15 11:27:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH703	13/08/15 11:28:00			0.0	0.0	20.2	0.0	0	0	1.6				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH703	13/08/15 11:29:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH703	13/08/15 11:30:00			0.0	0.0	20.2	0.0	0	0	1.6				
BH703	13/08/15 11:31:00			0.0	0.0	20.2	0.0	0	0	1.7				
BH703	13/08/15 11:32:00			0.0	0.0	20.2	0.0	0	0	1.7				
BH703	13/08/15 11:33:00			0.0	0.0	20.2	0.0	0	0	1.7				
BH703	13/08/15 11:34:00			0.0	0.0	20.2	0.0	0	0	1.7			4.73	
BH703	26/08/15 09:10:00	1005	0								0.0	13		
BH703	26/08/15 09:11:00										0.0			
BH703	26/08/15 09:12:00										0.0			
BH703	26/08/15 09:13:00										0.0			
BH703	26/08/15 09:14:00										0.0			
BH703	26/08/15 09:15:00			0.3	0.0	19.2	0.0	0	0	0.0				
BH703	26/08/15 09:16:00			0.3	0.0	19.2	0.0	0	0	0.0				
BH703	26/08/15 09:17:00			0.3	0.0	19.4	0.0	0	0	0.0				
BH703	26/08/15 09:18:00			0.2	0.0	19.4	0.0	0	0	0.0				
BH703	26/08/15 09:19:00			0.2	0.0	19.4	0.0	0	0	0.0				STABLE READINGS
BH703	26/08/15 09:20:00												4.74	depth 9.43m
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH704	20/07/15 10:15:00	1015	0								0.0	19		
BH704	20/07/15 10:16:00										0.0			
BH704	20/07/15 10:17:00										0.0			
BH704	20/07/15 10:18:00										0.0			
BH704	20/07/15 10:19:00										0.0			
BH704	20/07/15 10:20:00			6.9	0.0	14.6	0.0	0	0	1.5				
BH704	20/07/15 10:21:00			7.2	0.0	14.3	0.0	0	0	1.5				
BH704	20/07/15 10:22:00			7.3	0.0	14.1	0.0	0	0	1.4				
BH704	20/07/15 10:23:00			7.4	0.0	14.0	0.0	0	0	1.3				
BH704	20/07/15 10:24:00			7.5	0.0	13.9	0.0	0	0	1.2				
BH704	20/07/15 10:25:00			7.7	0.0	13.6	0.0	0	0	1.0				
BH704	20/07/15 10:26:00			7.8	0.0	13.7	0.0	0	0	0.8				
BH704	20/07/15 10:27:00			8.0	0.0	13.6	0.0	0	0	0.7				
BH704	20/07/15 10:28:00			8.1	0.0	13.6	0.0	0	0	0.5				
BH704	20/07/15 10:29:00			8.1	0.0	13.6	0.0	0	0	0.5			4.33	
BH704	28/07/15 10:44:00	992												
BH704	28/07/15 10:45:00										0.0			
BH704	28/07/15 10:46:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH704	28/07/15 10:47:00										0.0			
BH704	28/07/15 10:48:00										0.0			
BH704	28/07/15 10:49:00										0.0			
BH704	28/07/15 10:50:00			2.2	0.0	18.3	0.0	0	0	0.4				
BH704	28/07/15 10:51:00			2.0	0.0	18.7	0.0	0	0	0.3				
BH704	28/07/15 10:52:00			1.9	0.0	18.8	0.0	0	0	0.4				
BH704	28/07/15 10:53:00			1.9	0.0	18.8	0.0	0	0	0.3				
BH704	28/07/15 10:54:00			1.9	0.0	18.8	0.0	0	0	0.1				
BH704	28/07/15 10:55:00			1.9	0.0	18.8	0.0	0	0	0.1				
BH704	28/07/15 10:56:00		Stable readings	1.9	0.0	18.8	0.0	0	0	0.1				Stable readings
BH704	28/07/15 10:57:00												4.21	
BH704	14/08/15 10:30:00	1006	3.35								0.0	21		
BH704	14/08/15 10:31:00										0.0			
BH704	14/08/15 10:32:00										0.0			
BH704	14/08/15 10:33:00										0.0			
BH704	14/08/15 10:34:00										0.0			
BH704	14/08/15 10:35:00			4.2	0.0	17.1	0.0	0	0	0.0				
BH704	14/08/15 10:36:00			5.0	0.0	16.5	0.0	0	0	0.3				

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH704	14/08/15 10:37:00			5.3	0.0	16.2	0.0	0	0	0.5				
BH704	14/08/15 10:38:00			5.9	0.0	15.7	0.0	0	0	0.6				
BH704	14/08/15 10:39:00			6.6	0.0	15.2	0.0	0	0	0.6				
BH704	14/08/15 10:40:00			7.1	0.0	14.7	0.0	0	0	0.6				
BH704	14/08/15 10:41:00			7.7	0.0	14.2	0.0	0	0	0.6				
BH704	14/08/15 10:42:00			8.2	0.0	13.8	0.0	0	0	0.6				
BH704	14/08/15 10:43:00			8.5	0.0	13.7	0.0	0	0	0.5				
BH704	14/08/15 10:44:00			8.5	0.0	13.6	0.0	0	0	0.5			4.29	Insufficient water to obtain sample.
BH704	26/08/15 09:15:00	1001										16		Rain throughout day
BH704	26/08/15 09:16:00										0.0			
BH704	26/08/15 09:17:00										0.0			
BH704	26/08/15 09:18:00										0.0			
BH704	26/08/15 09:19:00										0.0			
BH704	26/08/15 09:20:00										0.0			
BH704	26/08/15 09:21:00			7.2	0.0	14.0	0.0	0	0	1.0				
BH704	26/08/15 09:22:00			7.1	0.0	14.1	0.0	0	0	0.4				
BH704	26/08/15 09:23:00			7.4	0.0	13.7	0.0	0	0	0.3				
BH704	26/08/15 09:24:00			7.7	0.0	13.5	0.0	0	0	0.0				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH704	26/08/15 09:25:00			7.8	0.0	13.4	0.0	0	0	0.0				
BH704	26/08/15 09:26:00			8.1	0.0	13.2	0.0	0	0	0.0				
BH704	26/08/15 09:27:00			8.4	0.0	12.9	0.0	0	0	0.0				
BH704	26/08/15 09:28:00			8.8	0.0	13.1	0.0	0	0	0.0				
BH704	26/08/15 09:29:00			9.2	0.0	12.5	0.0	0	0	0.0				
BH704	26/08/15 09:30:00			8.9	0.0	12.5	0.0	0	0	0.0				
BH704	26/08/15 09:31:00												4.24	Insufficient water to obtain sample.
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH705	20/07/15 09:15:00	1011	0								0.0	19		
BH705	20/07/15 09:16:00										0.0			
BH705	20/07/15 09:17:00										0.0			
BH705	20/07/15 09:18:00										0.0			
BH705	20/07/15 09:19:00										0.0			
BH705	20/07/15 09:20:00			0.6	0.0	17.4	0.0	0	0	4.2				
BH705	20/07/15 09:21:00			0.6	0.0	17.7	0.0	0	0	3.2				
BH705	20/07/15 09:22:00			0.6	0.0	18.0	0.0	0	0	2.5				
BH705	20/07/15 09:23:00			0.6	0.0	18.2	0.0	0	0	2.1				
BH705	20/07/15 09:24:00			0.6	0.0	18.4	0.0	0	0	1.6				
BH705	20/07/15 09:25:00			0.6	0.0	18.5	0.0	0	0	1.5				
BH705	20/07/15 09:26:00			0.7	0.0	18.6	0.0	0	0	1.3				
BH705	20/07/15 09:27:00			0.7	0.0	18.6	0.0	0	0	1.2				
BH705	20/07/15 09:28:00			0.7	0.0	18.7	0.0	0	0	1.1				
BH705	20/07/15 09:29:00			0.7	0.0	18.7	0.0	0	0	1.1			2.76	
BH705	28/07/15 10:40:00	1005	0								0.0	18		
BH705	28/07/15 10:41:00										0.0			
BH705	28/07/15 10:42:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH705	28/07/15 10:43:00										0.0			
BH705	28/07/15 10:44:00										0.0			
BH705	28/07/15 10:45:00			0.5	0.0	17.5	0.0	0	0	0.0				
BH705	28/07/15 10:46:00			0.5	0.0	16.9	0.0	0	0	0.0				
BH705	28/07/15 10:47:00			0.6	0.0	16.0	0.0	0	0	0.0				
BH705	28/07/15 10:48:00			0.7	0.0	15.7	0.0	0	0	0.0				
BH705	28/07/15 10:49:00			0.8	0.0	15.6	0.0	0	0	0.0				
BH705	28/07/15 10:50:00			0.9	0.0	15.7	0.0	0	0	0.0				
BH705	28/07/15 10:51:00			0.9	0.0	15.7	0.0	0	0	0.0				
BH705	28/07/15 10:52:00												2.71	
BH705	14/08/15 10:30:00	1007	0								0.0	19		
BH705	14/08/15 10:31:00										0.0			
BH705	14/08/15 10:32:00										0.0			
BH705	14/08/15 10:33:00										0.0			
BH705	14/08/15 10:34:00										0.0			
BH705	14/08/15 10:35:00			0.0	0.3	18.5	0.0	0	0	1.7				
BH705	14/08/15 10:36:00			0.0	0.3	18.5	0.0	0	0	1.4				
BH705	14/08/15 10:37:00			0.0	0.3	18.7	0.0	0	0	1.2				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH705	14/08/15 10:38:00			0.0	0.3	18.8	0.0	0	0	1.1				
BH705	14/08/15 10:39:00			0.0	0.3	18.9	0.0	0	0	1.0				
BH705	14/08/15 10:40:00			0.0	0.3	18.8	0.0	0	0	0.9				
BH705	14/08/15 10:41:00			0.0	0.4	18.8	0.0	0	0	0.8				
BH705	14/08/15 10:42:00			0.0	0.4	18.8	0.0	0	0	0.8				
BH705	14/08/15 10:43:00			0.0	0.4	18.7	0.0	0	0	0.8				
BH705	14/08/15 10:44:00			0.0	0.5	18.7	0.0	0	0	0.8			2.77	
BH705	26/08/15 09:48:00	1001										16		
BH705	26/08/15 09:49:00										0.0			
BH705	26/08/15 09:50:00										0.0			
BH705	26/08/15 09:51:00										0.0			
BH705	26/08/15 09:52:00										0.0			
BH705	26/08/15 09:53:00										0.0			
BH705	26/08/15 09:54:00			0.0	0.0	20.4	0.0	0	0	0.0				
BH705	26/08/15 09:55:00			0.0	0.0	20.4	0.0	0	0	0.0				
BH705	26/08/15 09:56:00			0.0	0.0	20.4	0.0	0	0	0.0				
BH705	26/08/15 09:57:00			0.0	0.0	20.4	0.0	0	0	0.0				
BH705	26/08/15 09:58:00			0.0	0.0	20.4	0.0	0	0	0.0				Stable readings
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH705	26/08/15 09:59:00												2.77	
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH706	20/07/15 11:00:00	1012	0								0.0	19		
BH706	20/07/15 11:01:00										0.0			
BH706	20/07/15 11:02:00										0.0			
BH706	20/07/15 11:03:00										0.0			
BH706	20/07/15 11:04:00										0.0			
BH706	20/07/15 11:05:00			0.0	0.0	20.4	0.0	0	0	0.9				
BH706	20/07/15 11:06:00			0.0	0.0	20.5	0.0	0	0	0.9				
BH706	20/07/15 11:07:00			0.0	0.0	20.4	0.0	0	0	0.9				
BH706	20/07/15 11:08:00			0.0	0.0	20.4	0.0	0	0	0.9				
BH706	20/07/15 11:09:00			0.0	0.0	20.5	0.0	0	0	1.0				
BH706	20/07/15 11:10:00			0.0	0.0	20.4	0.0	0	0	1.2				
BH706	20/07/15 11:11:00			0.0	0.0	20.4	0.0	0	0	1.3				
BH706	20/07/15 11:12:00			0.0	0.0	20.3	0.0	0	0	1.5				
BH706	20/07/15 11:13:00			0.0	0.0	20.3	0.0	0	0	1.6				
BH706	20/07/15 11:14:00			0.0	0.0	20.3	0.0	0	0	1.6			6.43	
BH706	28/07/15 11:40:00	1005	0								0.0	18		
BH706	28/07/15 11:41:00										0.0			
BH706	28/07/15 11:42:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH706	28/07/15 11:43:00										0.0			
BH706	28/07/15 11:44:00										0.0			
BH706	28/07/15 11:45:00			0.2	0.0	19.7	0.0	0	0	0.0				
BH706	28/07/15 11:46:00			0.1	0.0	19.7	0.0	0	0	0.0				
BH706	28/07/15 11:47:00			0.0	0.0	19.8	0.0	0	0	0.0				
BH706	28/07/15 11:48:00			0.0	0.0	19.8	0.0	0	0	0.0				
BH706	28/07/15 11:49:00			0.0	0.0	19.8	0.0	0	0	0.0				
BH706	28/07/15 11:50:00													
BH706	28/07/15 11:51:00													
BH706	28/07/15 11:52:00												6.40	
BH706	14/08/15 09:00:00	1007	2.25								0.0	19		
BH706	14/08/15 09:01:00										0.0			
BH706	14/08/15 09:02:00										0.0			
BH706	14/08/15 09:03:00										0.0			
BH706	14/08/15 09:04:00										0.0			
BH706	14/08/15 09:05:00			0.0	0.1	20.7	0.0	0	0	0.0				
BH706	14/08/15 09:06:00			0.0	0.0	20.7	0.0	0	0	0.0				
BH706	14/08/15 09:07:00			0.0	0.0	20.7	0.0	0	0	0.3				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH706	14/08/15 09:08:00			0.0	0.0	20.7	0.0	0	0	0.4				
BH706	14/08/15 09:09:00			0.0	0.0	20.7	0.0	0	0	0.5				
BH706	14/08/15 09:10:00			0.0	0.0	20.7	0.0	0	0	0.5				
BH706	14/08/15 09:11:00			0.0	0.0	20.7	0.0	0	0	0.6				
BH706	14/08/15 09:12:00			0.0	0.0	20.7	0.0	0	0	0.7				
BH706	14/08/15 09:13:00			0.0	0.0	20.7	0.0	0	0	0.5				
BH706	14/08/15 09:14:00			0.0	0.0	20.7	0.0	0	0	0.7			6.46	
BH706	26/08/15 09:50:00	1004									0.0	13		
BH706	26/08/15 09:51:00										0.0			
BH706	26/08/15 09:52:00										0.0			
BH706	26/08/15 09:53:00										0.0			
BH706	26/08/15 09:54:00										0.0			
BH706	26/08/15 09:55:00			0.1	0.0	19.7	0.0	0	0	0.0				
BH706	26/08/15 09:56:00			0.1	0.0	19.6	0.0	0	0	0.0				
BH706	26/08/15 09:57:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH706	26/08/15 09:58:00			0.0	0.0	19.7	0.0	0	0	0.0				
BH706	26/08/15 09:59:00			0.0	0.0	19.7	0.0	0	0	0.0				STABLE READINGS
BH706	26/08/15 10:00:00												6.43	
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH707	20/07/15 12:00:00	1012	0								0.0	19		
BH707	20/07/15 12:01:00										0.0			
BH707	20/07/15 12:02:00										0.0			
BH707	20/07/15 12:03:00										0.0			
BH707	20/07/15 12:04:00										0.0			
BH707	20/07/15 12:05:00			1.4	0.0	5.7	0.0	0	0	1.7				
BH707	20/07/15 12:06:00			1.2	0.0	7.1	0.0	0	0	1.5				
BH707	20/07/15 12:07:00			1.1	0.0	8.0	0.0	0	0	1.4				
BH707	20/07/15 12:08:00			1.1	0.0	8.1	0.0	0	0	1.4				
BH707	20/07/15 12:09:00			1.1	0.0	8.1	0.0	0	0	1.4				
BH707	20/07/15 12:10:00			1.1	0.0	8.1	0.0	0	0	1.4				
BH707	20/07/15 12:11:00			1.1	0.0	8.0	0.0	0	0	1.4				
BH707	20/07/15 12:12:00			1.1	0.0	7.8	0.0	0	0	1.4				
BH707	20/07/15 12:13:00			1.1	0.0	7.8	0.0	0	0	1.4				
BH707	20/07/15 12:14:00			1.1	0.0	7.8	0.0	0	0	1.3			11.03	
BH707	28/07/15 12:15:00	1004									0.0	18		
BH707	28/07/15 12:16:00										0.0			
BH707	28/07/15 12:17:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH707	28/07/15 12:18:00										0.0			
BH707	28/07/15 12:19:00										0.0			
BH707	28/07/15 12:20:00			0.8	0.0	18.3	0.0	0	0	0.0				
BH707	28/07/15 12:21:00			0.8	0.0	18.2	0.0	0	0	0.0				
BH707	28/07/15 12:22:00			0.7	0.0	18.2	0.0	0	0	0.0				
BH707	28/07/15 12:23:00			0.7	0.0	18.1	0.0	0	0	0.0				
BH707	28/07/15 12:24:00			0.7	0.0	18.1	0.0	0	0	0.0				
BH707	28/07/15 12:25:00													
BH707	28/07/15 12:26:00													
BH707	28/07/15 12:27:00												11.02	
BH707	14/08/15 09:25:00	1007	0								0.0	19		
BH707	14/08/15 09:26:00										0.0			
BH707	14/08/15 09:27:00										0.0			
BH707	14/08/15 09:28:00										0.0			
BH707	14/08/15 09:29:00										0.0			
BH707	14/08/15 09:30:00			0.0	4.9	7.7	0.0	0	0	2.3				
BH707	14/08/15 09:31:00			0.0	4.9	7.7	0.0	0	0	2.2				
BH707	14/08/15 09:32:00			0.0	3.6	7.6	0.0	0	0	1.8				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH707	14/08/15 09:33:00			0.0	3.7	7.7	0.0	0	0	18.0				
BH707	14/08/15 09:34:00			0.0	3.7	7.5	0.0	0	0	1.7				
BH707	14/08/15 09:35:00			0.0	3.7	7.4	0.0	0	0	1.7				
BH707	14/08/15 09:36:00			0.0	3.7	7.5	0.0	0	0	1.7				
BH707	14/08/15 09:37:00			0.0	3.7	7.2	0.0	0	0	1.7				
BH707	14/08/15 09:38:00			0.0	3.8	7.4	0.0	0	0	1.6				
BH707	14/08/15 09:39:00			0.0	3.8	7.5	0.0	0	0	1.6			11.03	
BH707	26/08/15 10:15:00	1004									0.0	13		
BH707	26/08/15 10:16:00										0.0			
BH707	26/08/15 10:17:00										0.0			
BH707	26/08/15 10:18:00										0.0			
BH707	26/08/15 10:19:00										0.0			
BH707	26/08/15 10:20:00			2.5	0.0	10.8	0.0	0	0	0.0				
BH707	26/08/15 10:21:00			2.8	0.0	10.1	0.0	0	0	0.0				
BH707	26/08/15 10:22:00			3.0	0.0	9.5	0.0	0	0	0.0				
BH707	26/08/15 10:23:00			3.1	0.0	9.3	0.0	0	0	0.0				
BH707	26/08/15 10:24:00			3.1	0.0	9.1	0.0	0	0	0.0				
BH707	26/08/15 10:25:00			3.1	0.0	9.1	0.0	0	0	0.0				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH707	26/08/15 10:26:00			3.1	0.0	9.1	0.0	0	0	0.0				
BH707	26/08/15 10:27:00			3.1	0.0	9.1	0.0	0	0	0.0				
BH707	26/08/15 10:28:00			3.1	0.0	9.1	0.0	0	0	0.0				
BH707	26/08/15 10:29:00			3.1	0.0	9.1	0.0	0	0	0.0				
BH707	26/08/15 10:30:00												11.05	depth 19.22m

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH708	20/07/15 13:00:00	1012	0								0.0	20		
BH708	20/07/15 13:01:00										0.0			
BH708	20/07/15 13:02:00										0.0			
BH708	20/07/15 13:03:00										0.0			
BH708	20/07/15 13:04:00										0.0			
BH708	20/07/15 13:05:00			0.3	0.0	19.0	0.0	0	4	2.1				
BH708	20/07/15 13:06:00			0.3	0.0	19.1	0.0	0	4	2.0				
BH708	20/07/15 13:07:00			0.3	0.0	19.1	0.0	0	4	2.1				
BH708	20/07/15 13:08:00			0.3	0.0	19.0	0.0	0	4	2.3				
BH708	20/07/15 13:09:00			0.3	0.0	19.0	0.0	0	4	2.4				
BH708	20/07/15 13:10:00			0.3	0.0	19.0	0.0	0	4	2.4				
BH708	20/07/15 13:11:00			0.3	0.0	19.0	0.0	0	4	2.5				
BH708	20/07/15 13:12:00			0.3	0.0	18.9	0.0	0	3	2.5				
BH708	20/07/15 13:13:00			0.3	0.0	18.9	0.0	0	4	2.5				
BH708	20/07/15 13:14:00			0.3	0.0	18.9	0.0	0	3	2.5			16.03	
BH708	28/07/15 11:36:00	992										16		
BH708	28/07/15 11:37:00										0.0			
BH708	28/07/15 11:38:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH708	28/07/15 11:39:00										0.0			
BH708	28/07/15 11:40:00										0.0			
BH708	28/07/15 11:41:00										0.0			
BH708	28/07/15 11:42:00			2.3	0.0	12.1	0.0	0	0	5.8				
BH708	28/07/15 11:43:00			2.3	0.0	11.9	0.0	0	0	4.3				
BH708	28/07/15 11:44:00			2.3	0.0	11.9	0.0	0	0	4.1				
BH708	28/07/15 11:45:00			2.3	0.0	11.9	0.0	0	0	5.4				
BH708	28/07/15 11:46:00			2.2	0.0	11.7	0.0	0	0	3.5				
BH708	28/07/15 11:47:00			2.3	0.0	12.0	0.0	0	0	2.7				
BH708	28/07/15 11:48:00			2.3	0.0	11.7	0.0	0	0	3.3				
BH708	28/07/15 11:49:00			2.3	0.0	11.8	0.0	0	0	3.1				
BH708	28/07/15 11:50:00			2.3	0.0	11.6	0.0	0	0	2.0				
BH708	28/07/15 11:51:00			2.3	0.0	11.6	0.0	0	0	2.0				
BH708	28/07/15 11:52:00												16.02	
BH708	13/08/15 12:15:00	1007	-0.02								0.0	18		
BH708	13/08/15 12:16:00										0.0			
BH708	13/08/15 12:17:00										0.0			
BH708	13/08/15 12:18:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH708	13/08/15 12:19:00										0.0			
BH708	13/08/15 12:20:00			1.2	0.0	16.3	0.0	0	0	2.5				
BH708	13/08/15 12:21:00			1.2	0.0	16.2	0.0	0	0	2.5				
BH708	13/08/15 12:22:00			1.2	0.0	16.2	0.0	0	0	2.4				
BH708	13/08/15 12:23:00			1.2	0.0	16.2	0.0	0	0	2.5				
BH708	13/08/15 12:24:00			1.2	0.0	16.1	0.0	0	0	2.4				
BH708	13/08/15 12:25:00			1.2	0.0	16.1	0.0	0	0	2.4				
BH708	13/08/15 12:26:00			1.3	0.0	16.1	0.0	0	0	2.3				
BH708	13/08/15 12:27:00			1.3	0.0	16.1	0.0	0	0	2.2				
BH708	13/08/15 12:28:00			1.3	0.0	16.0	0.0	0	0	2.2				
BH708	13/08/15 12:29:00			1.3	0.0	16.0	0.0	0	0	2.1			16.12	
BH708	26/08/15 11:05:00	1000										16		
BH708	26/08/15 11:06:00		0								0.0			
BH708	26/08/15 11:07:00		9								0.6			
BH708	26/08/15 11:08:00		16								0.5			
BH708	26/08/15 11:09:00		4								1.6			
BH708	26/08/15 11:10:00		2								0.6			
BH708	26/08/15 11:11:00			4.1	0.0	8.7	0.0	0	0	0.0				

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
BH708	26/08/15 11:12:00			4.0	0.0	9.1	0.0	0	0	0.3				
BH708	26/08/15 11:13:00			4.1	0.0	8.6	0.0	0	0	0.0				
BH708	26/08/15 11:14:00			4.1	0.0	8.6	0.0	0	0	0.0				
BH708	26/08/15 11:15:00			4.1	0.0	8.6	0.0	0	0	0.0				
BH708	26/08/15 11:16:00			4.0	0.0	8.6	0.0	0	0	0.0				
BH708	26/08/15 11:17:00			4.1	0.0	8.5	0.0	0	0	0.0				
BH708	26/08/15 11:18:00			4.0	0.0	8.9	0.0	0	0	0.8				
BH708	26/08/15 11:19:00			4.0	0.0	9.0	0.0	0	0	0.7				
BH708	26/08/15 11:20:00			4.0	0.0	9.0	0.0	0	0	0.9				
BH708	26/08/15 11:21:00												15.93	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
SW01	12/08/15 10:30:00													

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
SW02	12/08/15 11:40:00													
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
SW03	12/08/15 10:00:00													
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
SW04	12/08/15 11:30:00													

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
SW05	12/08/15 11:10:00													

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS101	15/07/15 10:00:00	1018	-0.02								0.0	20		
WS101	15/07/15 10:01:00										0.0			
WS101	15/07/15 10:02:00										0.0			
WS101	15/07/15 10:03:00										0.0			
WS101	15/07/15 10:04:00										0.0			
WS101	15/07/15 10:05:00			0.0	0.1	19.2	2.0	0	0	3.6				
WS101	15/07/15 10:06:00			0.0	0.1	19.3	2.0	0	0	3.7				
WS101	15/07/15 10:07:00			0.0	0.1	19.3	2.0	0	0	3.7				
WS101	15/07/15 10:08:00			0.0	0.1	19.3	2.0	0	0	3.6				
WS101	15/07/15 10:09:00			0.0	0.1	19.3	2.0	0	0	3.6				
WS101	15/07/15 10:10:00			0.0	0.1	19.3	2.0	0	0	3.5				
WS101	15/07/15 10:11:00			0.0	0.1	19.3	2.0	0	0	3.4				
WS101	15/07/15 10:12:00			0.0	0.1	19.4	2.0	0	0	3.3				
WS101	15/07/15 10:13:00			0.0	0.1	19.4	1.0	0	0	3.3				
WS101	15/07/15 10:14:00			0.0	0.1	19.4	1.0	0	0	3.3			3.31	
WS101	29/07/15 12:10:00	1009	0								0.0	18		
WS101	29/07/15 12:11:00										0.0			
WS101	29/07/15 12:12:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS101	29/07/15 12:13:00										0.0			
WS101	29/07/15 12:14:00										0.0			
WS101	29/07/15 12:15:00			0.0	0.0	18.8	0.0	0	0	0.0				
WS101	29/07/15 12:16:00			0.0	0.0	18.8	0.0	0	0	0.0				
WS101	29/07/15 12:17:00			0.0	0.0	18.8	0.0	0	0	0.0				
WS101	29/07/15 12:18:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS101	29/07/15 12:19:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS101	29/07/15 12:20:00												3.65	
WS101	12/08/15 10:00:00	1026	0								0.0	17		
WS101	12/08/15 10:01:00										0.0			
WS101	12/08/15 10:02:00										0.0			
WS101	12/08/15 10:03:00										0.0			
WS101	12/08/15 10:04:00										0.0			
WS101	12/08/15 10:05:00			0.0	0.2	19.9	3.0	0	0	1.8				
WS101	12/08/15 10:06:00			0.0	0.2	19.9	3.0	0	0	1.6				
WS101	12/08/15 10:07:00			0.0	0.2	19.8	3.0	0	0	1.5				
WS101	12/08/15 10:08:00			0.0	0.2	19.8	3.0	0	0	1.3				
WS101	12/08/15 10:09:00			0.0	0.2	19.8	3.0	0	0	1.3				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS101	12/08/15 10:10:00			0.0	0.2	19.8	3.0	0	0	1.3				
WS101	12/08/15 10:11:00			0.0	0.2	19.7	3.0	0	0	1.3				
WS101	12/08/15 10:12:00			0.0	0.2	19.8	3.0	0	0	1.3				
WS101	12/08/15 10:13:00			0.0	0.2	19.7	3.0	0	0	1.2				
WS101	12/08/15 10:14:00			0.0	0.2	19.7	3.0	0	0	1.2			3.66	
WS101	26/08/15 16:00:00	1003	0								0.0	13		
WS101	26/08/15 16:01:00										0.0			
WS101	26/08/15 16:02:00										0.0			
WS101	26/08/15 16:03:00										0.0			
WS101	26/08/15 16:04:00										0.0			
WS101	26/08/15 16:05:00			0.0	0.0	18.8	0.0	0	0	0.0				
WS101	26/08/15 16:06:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS101	26/08/15 16:07:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS101	26/08/15 16:08:00			0.0	0.0	18.6	0.0	0	0	0.0				
WS101	26/08/15 16:09:00			0.0	0.0	18.6	0.0	0	0	0.0				STABLE READINGS
WS101	26/08/15 16:10:00												3.78	
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS102	14/07/15 10:00:00	1018	-0.23								0.0	21		
WS102	14/07/15 10:01:00										0.0			
WS102	14/07/15 10:02:00										0.0			
WS102	14/07/15 10:03:00										0.0			
WS102	14/07/15 10:04:00										0.0			
WS102	14/07/15 10:05:00			0.0	0.0	18.0	0.0	0	1	4.3				
WS102	14/07/15 10:06:00			0.0	0.0	18.0	0.0	0	0	4.0				
WS102	14/07/15 10:07:00			0.0	0.0	18.0	0.0	0	0	3.8				
WS102	14/07/15 10:08:00			0.0	0.0	18.0	0.0	0	0	3.6				
WS102	14/07/15 10:09:00			0.0	0.0	18.0	0.0	0	0	3.0				
WS102	14/07/15 10:10:00			0.0	0.0	18.0	0.0	0	0	3.0				
WS102	14/07/15 10:11:00			0.0	0.0	18.0	0.0	0	0	3.0				
WS102	14/07/15 10:12:00			0.0	0.0	18.0	0.0	0	0	2.9				
WS102	14/07/15 10:13:00			0.0	0.0	18.1	0.0	0	0	2.8				
WS102	14/07/15 10:14:00			0.0	0.0	18.1	0.0	0	0	2.7			3.29	
WS102	29/07/15 12:10:00	1002										17		
WS102	29/07/15 12:11:00										0.0			
WS102	29/07/15 12:12:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS102	29/07/15 12:13:00										0.0			
WS102	29/07/15 12:14:00										0.0			
WS102	29/07/15 12:15:00										0.0			
WS102	29/07/15 12:16:00			0.0	0.0	19.2	0.0	0	0	0.0				
WS102	29/07/15 12:17:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS102	29/07/15 12:18:00			0.0	0.0	18.6	0.0	0	0	0.0				
WS102	29/07/15 12:19:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS102	29/07/15 12:20:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS102	29/07/15 12:21:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS102	29/07/15 12:22:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS102	29/07/15 12:23:00			0.0	0.0	18.7	0.0	0	0	0.0				
WS102	29/07/15 12:24:00												3.49	
WS102	12/08/15 11:00:00	1020	0								0.0	19		
WS102	12/08/15 11:01:00										0.0			
WS102	12/08/15 11:02:00										0.0			
WS102	12/08/15 11:03:00										0.0			
WS102	12/08/15 11:04:00										0.0			
WS102	12/08/15 11:05:00			0.0	0.0	20.6	0.0	0	0	1.9				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS102	12/08/15 11:06:00			0.0	0.0	20.5	0.0	0	0	1.3				
WS102	12/08/15 11:07:00			0.0	0.0	20.4	0.0	0	0	1.1				
WS102	12/08/15 11:08:00			0.0	0.0	20.4	0.0	0	0	1.0				
WS102	12/08/15 11:09:00			0.0	0.0	20.3	0.0	0	0	0.9				
WS102	12/08/15 11:10:00			0.0	0.0	20.1	0.0	0	0	0.9				
WS102	12/08/15 11:11:00			0.0	0.0	20.0	0.0	0	0	0.8				
WS102	12/08/15 11:12:00			0.0	0.0	19.9	0.0	0	0	0.8				
WS102	12/08/15 11:13:00			0.0	0.0	19.8	0.0	0	0	0.8				
WS102	12/08/15 11:14:00			0.0	0.0	19.7	0.0	0	0	0.7			3.98	
WS102	26/08/15 15:53:00	1000										17		
WS102	26/08/15 15:54:00										0.0			
WS102	26/08/15 15:55:00										0.0			
WS102	26/08/15 15:56:00										0.0			
WS102	26/08/15 15:57:00										0.0			
WS102	26/08/15 15:58:00										0.0			
WS102	26/08/15 15:59:00			0.0	0.0	18.4	0.0	0	0	0.0				
WS102	26/08/15 16:00:00			0.0	0.0	18.3	0.0	0	0	0.0				
WS102	26/08/15 16:01:00			0.0	0.0	18.3	0.0	0	0	0.0				

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS102	26/08/15 16:02:00			0.0	0.0	18.1	0.0	0	0	0.0				
WS102	26/08/15 16:03:00			0.0	0.0	18.1	0.0	0	0	0.0				
WS102	26/08/15 16:04:00			0.0	0.0	18.0	0.0	0	0	0.0				
WS102	26/08/15 16:05:00			0.0	0.0	18.0	0.0	0	0	0.0				
WS102	26/08/15 16:06:00			0.0	0.0	18.0	0.0	0	0	0.0				
WS102	26/08/15 16:07:00			0.0	0.0	18.0	0.0	0	0	0.0				
WS102	26/08/15 16:08:00			0.0	0.0	18.0	0.0	0	0	0.0				
WS102	26/08/15 16:09:00			0.0	0.0	18.0	0.0	0	0	0.0			3.54	
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS202	14/07/15 13:15:00	1017	0.01								0.0	20		
WS202	14/07/15 13:16:00										0.0			
WS202	14/07/15 13:17:00										0.0			
WS202	14/07/15 13:18:00										0.0			
WS202	14/07/15 13:19:00										0.0			
WS202	14/07/15 13:20:00			0.0	0.3	15.9	5.0	0	6	3.8				
WS202	14/07/15 13:21:00			0.0	0.3	15.9	5.0	0	6	3.9				
WS202	14/07/15 13:22:00			0.0	0.3	15.9	5.0	0	6	4.0				
WS202	14/07/15 13:23:00			0.0	0.3	16.0	5.0	0	6	3.9				
WS202	14/07/15 13:24:00			0.0	0.3	16.0	5.0	0	6	3.8				
WS202	14/07/15 13:25:00			0.0	0.3	16.1	5.0	0	6	3.8				
WS202	14/07/15 13:26:00			0.0	0.3	16.2	5.0	0	6	3.7				
WS202	14/07/15 13:27:00			0.0	0.3	16.3	5.0	0	6	3.6				
WS202	14/07/15 13:28:00			0.0	0.2	16.5	4.0	0	5	3.5				
WS202	14/07/15 13:29:00			0.0	0.2	16.6	4.0	0	5	3.5			7.65	
WS202	29/07/15 10:30:00	1009	0								0.0	18		
WS202	29/07/15 10:31:00										0.0			
WS202	29/07/15 10:32:00										0.0			
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS202	29/07/15 10:33:00										0.0			
WS202	29/07/15 10:34:00										0.0			
WS202	29/07/15 10:35:00			0.0	0.0	16.3	0.0	0	0	0.0				
WS202	29/07/15 10:36:00			0.0	0.0	16.2	0.0	0	0	0.0				
WS202	29/07/15 10:37:00			0.0	0.0	16.2	0.0	0	0	0.0				
WS202	29/07/15 10:38:00			0.0	0.0	16.3	0.0	0	0	0.0				
WS202	29/07/15 10:39:00			0.0	0.0	16.3	0.0	0	0	0.0				
WS202	29/07/15 10:40:00												7.26	
WS202	12/08/15 12:00:00	1023	-0.12								0.0	18		
WS202	12/08/15 12:01:00										0.0			
WS202	12/08/15 12:02:00										0.0			
WS202	12/08/15 12:03:00										0.0			
WS202	12/08/15 12:04:00										0.0			
WS202	12/08/15 12:05:00			0.3	0.0	17.7	0.0	5	5	2.5				
WS202	12/08/15 12:06:00			0.3	0.0	17.8	0.0	55	5	2.5				
WS202	12/08/15 12:07:00			0.3	0.0	17.8	0.0	5	5	2.5				
WS202	12/08/15 12:08:00			0.3	0.0	17.8	0.0	5	5	2.6				
WS202	12/08/15 12:09:00			0.3	0.0	17.9	0.0	5	5	2.6				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS202	12/08/15 12:10:00			0.3	0.0	17.9	0.0	5	5	2.5				
WS202	12/08/15 12:11:00			0.3	0.0	17.9	0.0	5	5	2.6				
WS202	12/08/15 12:12:00			0.3	0.0	18.0	0.0	6	5	2.6				
WS202	12/08/15 12:13:00			0.2	0.0	18.1	0.0	5	4	2.6				
WS202	12/08/15 12:14:00			0.2	0.0	18.2	0.0	5	4	2.8			7.95	
WS202	26/08/15 15:15:00	1002	0								0.0	13		
WS202	26/08/15 15:16:00										0.0			
WS202	26/08/15 15:17:00										0.0			
WS202	26/08/15 15:18:00										0.0			
WS202	26/08/15 15:19:00										0.0			
WS202	26/08/15 15:20:00			0.0	0.0	16.9	0.0	0	0	0.0				
WS202	26/08/15 15:21:00			0.0	0.0	16.8	0.0	0	0	0.0				
WS202	26/08/15 15:22:00			0.0	0.0	16.7	0.0	0	0	0.0				
WS202	26/08/15 15:23:00			0.0	0.0	16.6	0.0	0	0	0.0				
WS202	26/08/15 15:24:00			0.0	0.0	16.6	0.0	0	0	0.0				STABLE READINGS
WS202	26/08/15 15:25:00												7.16	
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS203	14/07/15 12:15:00	1019	-0.17								0.0	20		
WS203	14/07/15 12:16:00										0.0			
WS203	14/07/15 12:17:00										0.0			
WS203	14/07/15 12:18:00										0.0			
WS203	14/07/15 12:19:00										0.0			
WS203	14/07/15 12:20:00			0.0	2.4	19.6	45.0	0	16	2.0				
WS203	14/07/15 12:21:00			0.0	2.0	19.7	39.0	0	14	1.9				
WS203	14/07/15 12:22:00			0.0	1.8	19.8	35.0	0	12	1.8				
WS203	14/07/15 12:23:00			0.0	1.6	19.8	31.0	0	11	1.9				
WS203	14/07/15 12:24:00			0.0	1.4	19.9	28.0	0	10	1.9				
WS203	14/07/15 12:25:00			0.0	1.3	19.9	25.0	0	8	2.1				
WS203	14/07/15 12:26:00			0.0	1.2	19.9	24.0	0	8	2.7				
WS203	14/07/15 12:27:00			0.0	1.2	19.9	23.0	0	7	3.0				
WS203	14/07/15 12:28:00			0.0	1.1	19.9	20.0	0	6	3.0				
WS203	14/07/15 12:29:00			0.0	1.0	20.0	19.0	0	5	2.9			1.14	
WS203	29/07/15 10:45:00	1004										17		
WS203	29/07/15 10:46:00										0.0			
WS203	29/07/15 10:47:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS203	29/07/15 10:48:00										0.0			Peak CH4 = 2%
WS203	29/07/15 10:49:00										0.0			
WS203	29/07/15 10:50:00										0.0			
WS203	29/07/15 10:51:00													
WS203	29/07/15 10:52:00			0.0	1.3	20.1	29.3	0	0	0.0				
WS203	29/07/15 10:53:00			0.1	1.2	20.1	28.4	0	0	0.0				
WS203	29/07/15 10:54:00			0.1	0.6	20.3	13.7	0	0	0.0				
WS203	29/07/15 10:55:00			0.1	0.0	20.4	1.8	0	0	0.0				
WS203	29/07/15 10:56:00			0.1	0.0	20.4	0.0	0	0	0.0				
WS203	29/07/15 10:57:00			0.1	0.0	20.4	0.0	0	0	0.0				
WS203	29/07/15 10:58:00			0.1	0.0	20.4	0.0	0	0	0.0				
WS203	29/07/15 10:59:00			0.1	0.0	20.4	0.0	0	0	0.0				
WS203	29/07/15 11:00:00			0.1	0.0	20.4	0.0	0	0	0.0				
WS203	29/07/15 11:01:00			0.1	0.0	20.5	0.0	0	0	0.0				
WS203	29/07/15 11:02:00												1.23	
WS203	12/08/15 12:00:00	1020	0								0.0	20		
WS203	12/08/15 12:01:00										0.0			
WS203	12/08/15 12:02:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS203	12/08/15 12:03:00										0.0			
WS203	12/08/15 12:04:00										0.0			
WS203	12/08/15 12:05:00			0.0	0.0	20.7	0.0	0	0	2.2				
WS203	12/08/15 12:06:00			0.0	0.0	20.6	0.0	0	0	1.9				
WS203	12/08/15 12:07:00			0.0	0.0	20.6	0.0	0	0	1.8				
WS203	12/08/15 12:08:00			0.0	0.0	20.6	0.0	0	0	1.7				
WS203	12/08/15 12:09:00			0.0	0.0	20.6	0.0	0	0	1.6				
WS203	12/08/15 12:10:00			0.0	0.0	20.6	0.0	0	0	1.6				
WS203	12/08/15 12:11:00			0.0	0.0	20.6	0.0	0	0	1.5				
WS203	12/08/15 12:12:00			0.0	0.0	20.5	0.0	0	0	1.4				
WS203	12/08/15 12:13:00			0.0	0.0	20.5	0.0	0	0	1.5				
WS203	12/08/15 12:14:00			0.0	0.0	20.6	0.0	0	0	1.5			1.56	
WS203	26/08/15 15:20:00	1000										17		
WS203	26/08/15 15:21:00										0.0			
WS203	26/08/15 15:22:00										0.0			
WS203	26/08/15 15:23:00										0.0			
WS203	26/08/15 15:24:00										0.0			
WS203	26/08/15 15:25:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS203	26/08/15 15:26:00			0.0	5.7	18.7	#	0	0	0.0				
WS203	26/08/15 15:27:00			0.0	4.2	19.2	96.5	0	0	0.0				
WS203	26/08/15 15:28:00			0.0	4.2	19.2	96.5	0	0	0.0				
WS203	26/08/15 15:29:00			0.0	4.3	19.2	97.8	0	0	0.0				
WS203	26/08/15 15:30:00			0.0	4.4	19.2	#	0	0	0.0				
WS203	26/08/15 15:31:00			0.0	2.9	19.5	64.0	0	0	0.0				
WS203	26/08/15 15:32:00			0.0	3.1	19.5	67.3	0	0	0.0				
WS203	26/08/15 15:33:00			0.0	3.3	19.4	72.0	0	0	0.0				
WS203	26/08/15 15:34:00			0.0	3.4	19.4	76.1	0	0	0.0				
WS203	26/08/15 15:35:00			0.0	3.4	19.4	78.9	0	0	0.0				
WS203	26/08/15 15:36:00												1.27	

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT <b>30766</b>	CHECKED <b>EC</b>
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# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS204	15/07/15 12:30:00	1016	0.56								0.0	23		
WS204	15/07/15 12:31:00										0.0			
WS204	15/07/15 12:32:00										0.0			
WS204	15/07/15 12:33:00										0.0			
WS204	15/07/15 12:34:00										0.0			
WS204	15/07/15 12:35:00			0.0	0.1	15.5	2.0	0	3	5.0				
WS204	15/07/15 12:36:00			0.0	0.1	15.4	2.0	0	3	5.2				
WS204	15/07/15 12:37:00			0.0	0.1	15.4	2.0	0	3	5.2				
WS204	15/07/15 12:38:00			0.0	0.1	15.5	2.0	0	3	5.0				
WS204	15/07/15 12:39:00			0.0	0.1	15.6	2.0	0	2	4.8				
WS204	15/07/15 12:40:00			0.0	0.1	15.9	2.0	0	2	4.6				
WS204	15/07/15 12:41:00			0.0	0.1	16.5	2.0	0	2	4.2				
WS204	15/07/15 12:42:00			0.0	0.1	17.7	1.0	0	1	3.6				
WS204	15/07/15 12:43:00			0.0	0.1	18.9	1.0	0	0	3.0				
WS204	15/07/15 12:44:00			0.0	0.1	19.0	1.0	0	0	3.0			Dry	
WS204	29/07/15 09:30:00	1009	0								0.0	18		
WS204	29/07/15 09:31:00										0.0			
WS204	29/07/15 09:32:00										0.0			

remarks  
 # denotes result exceeding capacity of gas monitoring equipment  
 VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.

CONTRACT  
**30766**

CHECKED  
**EC**

# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS204	29/07/15 09:33:00										0.0			
WS204	29/07/15 09:34:00										0.0			
WS204	29/07/15 09:35:00			0.0	0.0	17.8	0.0	0	0	0.0				
WS204	29/07/15 09:36:00			0.0	0.0	17.8	0.0	0	0	0.0				
WS204	29/07/15 09:37:00			0.0	0.0	17.8	0.0	0	0	0.0				
WS204	29/07/15 09:38:00			0.0	0.0	17.7	0.0	0	0	0.0				
WS204	29/07/15 09:39:00			0.0	0.0	17.7	0.0	0	0	0.0				
WS204	29/07/15 09:40:00												Dry	
WS204	13/08/15 09:30:00	1016	-0.69								0.0	20		
WS204	13/08/15 09:31:00										0.0			
WS204	13/08/15 09:32:00										0.0			
WS204	13/08/15 09:33:00										0.0			
WS204	13/08/15 09:34:00										0.0			
WS204	13/08/15 09:35:00			0.2	0.0	14.0	0.0	4	3	2.1				
WS204	13/08/15 09:36:00			0.2	0.0	13.3	0.0	4	4	1.8				
WS204	13/08/15 09:37:00			0.2	0.0	12.8	0.0	5	4	1.8				
WS204	13/08/15 09:38:00			0.2	0.0	12.3	0.0	5	4	1.8				
WS204	13/08/15 09:39:00			0.2	0.0	11.8	0.0	5	4	1.9				
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>



# GAS AND GROUNDWATER LEVELS



CLIENT: LONDON RESORT COMPANY HOLDINGS LTD

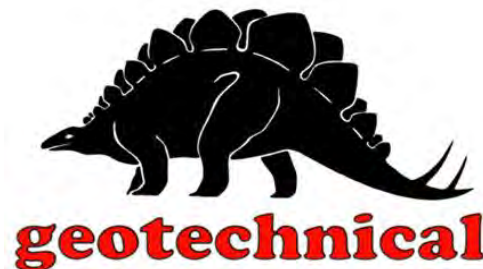
SITE: LONDON PARAMOUNT ENTERTAINMENT RESORT

Borehole /trial pit no.	date and time	barometric pressure (mb)	pressure differentiation (mm H <sub>2</sub> O)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	temperature (°C)	water level (m - bgl)	remarks
WS204	13/08/15 09:40:00			0.3	0.0	11.0	0.0	5	5	1.9				
WS204	13/08/15 09:41:00			0.3	0.0	10.8	0.0	5	5	2.0				
WS204	13/08/15 09:42:00			0.3	0.0	10.6	0.0	5	5	2.0				
WS204	13/08/15 09:43:00			0.3	0.0	11.7	0.0	4	4	2.0				
WS204	13/08/15 09:44:00			0.2	0.0	13.2	0.0	2	4	1.9			DRY	
WS204	26/08/15 14:30:00	1002	0								0.0	13		initial flow: -1.1
WS204	26/08/15 14:31:00										0.0			
WS204	26/08/15 14:32:00										0.0			
WS204	26/08/15 14:33:00										0.0			
WS204	26/08/15 14:34:00										0.0			
WS204	26/08/15 14:35:00			0.0	0.0	15.2	0.0	0	0	0.0				
WS204	26/08/15 14:36:00			0.0	0.0	14.2	0.0	0	0	0.0				
WS204	26/08/15 14:37:00			0.0	0.0	14.1	0.0	0	0	0.0				
WS204	26/08/15 14:38:00			0.0	0.0	14.0	0.0	0	0	0.0				
WS204	26/08/15 14:39:00			0.0	0.0	14.0	0.0	0	0	0.0				STABLE READINGS
WS204	26/08/15 14:40:00												DRY	depth: 8.57m
remarks # denotes result exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE 2000 measures VOC vapours with 10.6eV lamp calibrated against isobutylene.													CONTRACT <b>30766</b>	CHECKED <b>EC</b>

**APPENDIX B**  
**LABORATORY TESTING**



2718



GEOTECHNICAL ENGINEERING LIMITED

For the attention of Chris Yates/Emma Leivers

Version No. 1

Page No. 1 of 191

Date of Issue 13/10/2015

**TEST REPORT**

PROJECT/SITE	London Paramount Entertainment Resort	Samples received	15/07/2015
GEL REPORT NUMBER	30766	Schedule received	15/07/2015
Your ref/PO:	0	Testing commenced	04/08/2015
Test report refers to	All schedules combined	Status	Final

**SUMMARY OF RESULTS ATTACHED**

TEST METHOD & DESCRIPTION	QUANTITY	ACCREDITED TEST
BS1377: Part 2: 1990:3.3, Saturation Moisture Content	17	YES
BS1377: Part 2: 1990:3.3, Saturation Moisture Content (Subcontracted)	2	YES
BS EN ISO 17892-1: 2014:5. Water Content	81	YES
BS1377: Part 2: 1990:3.2, Moisture Content (Subcontracted)	47	YES
BS1377: Part 2: 1990:4.2-4.4&5.2-5.4, Liquid & Plastic Limits	51	YES
BS1377: Part 2: 1990:4.5-4.6&5.2-5.4, Liquid (Casagrande Method) & Plastic Limits	1	YES
BS1377: Part 2: 1990:4.2-4.4&5.2-5.4, Liquid & Plastic Limits (Subcontracted)	22	YES
BS EN ISO 17892-2: 2014:5.1 Density - Linear Measurement	2	YES
BS EN ISO 17892-2: 2014:5.2 Density - Immersion	2	YES
BS1377: Part 2: 1990:7.2, Density - Linear Measurement (Subcontracted)	3	YES
BS1377: Part 2: 1990:9.2, Particle Size Distribution - Wet Sieve	46	YES
BS1377: Part 2: 1990:9.4, Particle Size Distribution - Pipette	30	YES
BS1377: Part 2: 1990:9.2, Particle Size Distribution - Wet Sieve (Subcontracted)	38	YES
BS1377: Part 2: 1990:9.5, Particle Size Distribution - Hydrometer (Subcontracted)	28	YES

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Doc TR01 Rev No. 7 Revision date 12/02/15 DC:JH

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2718



GEOTECHNICAL ENGINEERING LIMITED

For the attention of Chris Yates/Emma Leivers

Version No. 1

Page No. 2 of 191

Date of Issue 13/10/2015

**TEST REPORT**

PROJECT/SITE	London Paramount Entertainment Resort	Samples received	15/07/2015
GEL REPORT NUMBER	30766	Schedule received	15/07/2015
Your ref/PO:	0	Testing commenced	04/08/2015
Test report refers to	All schedules combined	Status	Final

**SUMMARY OF RESULTS ATTACHED**

TEST METHOD & DESCRIPTION	QUANTITY	ACCREDITED TEST
BS1377: Part 4: 1990:3, Dry Density/Moisture Content Relationship	2	YES
BS1377: Part 4: 1990:3, Dry Density/Moisture Content Relationship (Subcontracted)	1	YES
BS1377: Part 5: 1990:3, Consolidation	2	NO
BS1377: Part 6: 1990:6, Constant Head Permeability (Subcontracted)	2	YES
BS1377: Part 7: 1990:4.5, Determination of Shear Strength by Direct Shear (Subcontracted)	4	YES
BS1377: Part 7: 1990:8&9, Undrained Triaxial Compression	4	NO
BS1377: Part 7: 1990:8&9, Undrained Triaxial Compression (Subcontracted)	4	YES
BS1377: Part 8: 1990: Effective Stress Testing (Subcontracted)	5	YES
ISRM: Suggested Methods: 2007 Edition: Uniaxial Compressive Strength of Rock	6	NO
ISRM: Suggested Methods: 2007 Edition: Uniaxial Compressive Strength of Rock (Subcontracted)	1	NO
ISRM: Suggested Methods 2007 Edition: Point Load Strength Test	31	NO
ISRM: Suggested Methods 2007 Edition: Point Load Strength Test (Subcontracted)	1	YES
Split and Describe	5	NO
Organic Matter Content (subcontracted)	12	YES

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---	--

Doc TR01 Rev No. 7 Revision date 12/02/15 DC:JH

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GEOTECHNICAL ENGINEERING LIMITED

For the attention of Chris Yates/Emma Leivers

Version No. 1

Page No. 3 of 191

Date of Issue 13/10/2015

**TEST REPORT**

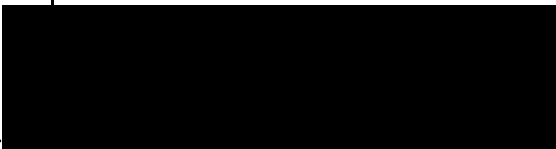
PROJECT/SITE	London Paramount Entertainment Resort	Samples received	15/07/2015
GEL REPORT NUMBER	30766	Schedule received	15/07/2015
Your ref/PO:	0	Testing commenced	04/08/2015
Test report refers to	All schedules combined	Status	Final

**SUMMARY OF RESULTS ATTACHED**

TEST METHOD & DESCRIPTION	QUANTITY	ACCREDITED TEST
BRE Suite C	6	YES
BRE SD1 Suite (Subcontracted)	1	YES/NO

Remarks  
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Approved Signatories:  
**S Robinson (Client Manager)** C Andrew (Client Manager)  
W Jones (Technical Support) J Hanson (Director) C Thomas (Consultant)



Doc TR01 Rev No. 7 Revision date 12/02/15 DC:JH

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# SATURATION MOISTURE CONTENT OF CHALK



BS.1377 : Part 2 : 1990 : 3.3

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	natural moisture content (%)	bulk density (Mg/m <sup>3</sup> )	dry density (Mg/m <sup>3</sup> )	saturation moisture content (%)	porosity (%)	description and remarks
	no./type	depth (m)							
BH101	99Cs	31.45	31.45	20	2.01	1.68	23	38	White CHALK
BH101	108Cs	35.95	36.20	27	1.93	1.53	29	43	White CHALK
BH101	114Cs	39.65	39.65	20	1.80	1.50	30	44	White CHALK
BH101	130Cs	56.50	56.50	8.5	1.75	1.61	25	40	White CHALK
BH203	41Xs	14.35	14.40	29	1.93	1.50	30	44	White CHALK
BH203	51Xs	18.20	18.20	28	1.95	1.52	29	44	White CHALK
BH203	61Cs	25.45	25.50	21	2.02	1.67	23	38	White CHALK
BH203	64Cs	25.75	25.80	22	2.01	1.65	24	39	White CHALK
BH203	70Cs	28.50	28.50	26	1.95	1.54	28	43	White CHALK
BH203	78Cs	31.30	31.30	32	1.88	1.43	33	47	White CHALK
BH203	84Cs	33.40	33.40	29	1.93	1.50	30	44	White CHALK
BH203	93Cs	36.20	36.20	29	1.92	1.49	30	45	White CHALK
BH203	103Cs	40.05	40.10	26	1.92	1.53	29	43	White CHALK
BH204	49Xs	14.40	14.40	31	1.92	1.47	31	46	White CHALK
BH204	57Xs	17.65	17.70	28	1.95	1.52	29	44	White CHALK
BH501	81Cs	19.95	19.95	27	1.97	1.55	28	43	Off white CHALK
BH502	69Cs	18.20	18.20	26	1.92	1.53	28	43	White CHALK

general remarks:

natural moisture content determined in accordance with BS1377 : Part 2 : 1990 : 3.2 (unless specified)

# denotes sample tested is smaller than that which is recommended in accordance with BS1377

test method:  
immersion in water (test 3.3)

CONTRACT  
**30766**

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**SR**

## SATURATED MOISTURE CONTENT OF CHALK - SUMMARY OF RESULTS

Project No	Project Name									
N5110-15	LONDON PARAMOUNT ENTERTAINMENT RESORT									
Hole No.	Sample				Specimen details			Saturation Moisture Content (3)	Porosity (4)	Remarks
	No.	Depth (m)		type	Moisture Content (1)	Bulk density (2)	Dry density			
		from	to							
BH202	82	25.00		XS	26	1.98	1.57	27	42	
BH202	95	28.45		CS	28	1.96	1.52	29	44	

**Notes:** Test Specification : British Standard 1377 : Part 2 : 1990 clause 3.3

(1) Specimen dried at 105 - 110 °C

(2) Derived as part of standard test by immersion in water ( buoyancy )

(3) SMC derived using particle density 2.70 Mg/m<sup>3</sup>

(4) Porosity (%) =  $100 \times ( 1 - (\text{dry density} / \text{particle density}) )$       above notes apply unless annotated otherwise in the remarks

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**LIQUID AND PLASTIC LIMITS**



**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	natural water content (%)	specimen preparation and test method	fraction >0.425 mm (%)	liquid limit (%)	plastic limit (%)	plasticity index (%)	description and remarks
	no./type	depth (m)								
BH101	29D	6.20	6.20	155	E					Dark brown slightly sandy slightly gravelly organic CLAY
BH101	32UT	7.20	7.35	80.9	BXE	1	75	34	41	Brownish grey slightly sandy organic CLAY
BH101	37D	8.20	8.20	75.5	BXE	0	91	42	49	Greyish brown slightly sandy organic CLAY
BH101	46D	10.50	10.50	111	BXE	0	209	100	109	Greyish black slightly sandy organic CLAY
BH101	50UT	12.00	12.10	70.9	BXE	0	77	34	43	Greyish brown slightly sandy organic CLAY
BH101	57D	13.50	13.50	20.2	E					Greyish brown sandy slightly gravelly CLAY
BH101	64B	15.00	15.00	17.0	BXE	28	24	NP		Greyish brown slightly gravelly silty SAND
BH203	12D	3.20	3.20	31.4	BXE	26	56	28	28	Brown slightly sandy slightly gravelly CLAY
BH203	17B	5.00	5.00	59.1	E					Brown slightly sandy CLAY
BH203	20B	6.00	6.00	20.5	BXE	19	22	12	10	Grey silty very sandy GRAVEL
BH203	25D	7.20	7.20	11.8	E					Light brown slightly sandy slightly gravelly CLAY
BH204	16B	4.00	4.00	94.4	BXE	8	88	36	52	Brown slightly sandy slightly gravelly organic CLAY
BH204	25D	6.20	6.20	35.1	BXE	3	47	20	27	Brown slightly sandy CLAY
BH204	29B	8.00	8.00	14.8	E					Greyish brown slightly sandy slightly gravelly CLAY
BH204	30B	9.00	9.00	12.3	BXE	64	23	14	9	Greyish brown silty sandy GRAVEL with medium cobble content
BH204	32UT	10.00	10.00	20.3	BXE	4	28	19	9	Brown slightly sandy slightly gravelly CLAY
BH204	36B	11.00	11.00	20.6	BXE	31	26	16	10	Brown slightly sandy slightly gravelly CLAY
BH501	7D	1.20	1.20	37.8	E					White slightly sandy slightly gravelly SILT. Gravel is CHALK

general remarks:

natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014

NP denotes non-plastic

# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

specimen preparation:

A - as received

B - washed on 0.425mm sieve

C - air dried

D - oven dried (60°C)

E - oven dried (105°C)

F - not known

test method:

X - cone penetrometer (test 4.3)

Y - one point cone penetrometer (test 4.4)

Z - Casagrande apparatus (test 4.5)

CONTRACT

**30766**

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Geotechnical Engineering Limited  
**LIQUID AND PLASTIC LIMITS**



**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	natural water content (%)	specimen preparation and test method	fraction >0.425 mm (%)	liquid limit (%)	plastic limit (%)	plasticity index (%)	description and remarks
	no./type	depth (m)								
BH501	10D	1.70	1.70	39.4	BXE#	16	41	29	12	White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	16D	3.10	3.10	35.5	BXE#	19	41	32	9	White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	20D	3.60	3.60	30.8	E					White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	22D	4.10	4.10	35.6	BXE#	36	38	31	7	White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	28D	5.10	5.10	34.0	E					White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	34D	6.10	6.10	29.6	E					White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	38D	6.90	6.90	24.7	BXE#	47	41	29	12	White slightly sandy slightly gravelly SILT. Gravel is CHALK
BH501	46D	8.60	8.60	13.4	E#					Brown silty slightly sandy GRAVEL
BH502	5B	1.00	1.00	28.1	BXE#	23	34	23	11	Off white slightly sandy slightly gravelly CHALK
BH502	10D	1.70	1.70	19.4	E					Off white CHALK putty
BH502	13D	2.20	2.20	33.5	BXE#	21	36	31	5	Off white slightly sandy slightly gravelly CHALK
BH502	22D	4.20	4.20	27.1	BXE	18	32	23	9	Off white CHALK
BH502	29D	5.70	5.70	22.3	E					Off white CHALK
BH502	36D	7.20	7.20	19.0	BXE#	16	31	21	10	Off white slightly sandy slightly gravelly CHALK
BH502	43D	8.70	8.70	15.3	E#					Brown mottled white slightly clayey sandy GRAVEL
BH502	46D	9.20	9.20	16.2	BXE	5	29	17	12	Brown slightly sandy slightly gravelly CLAY
BH502	55D	11.40	11.40	13.5	BXE	62	43	17	26	Brown slightly sandy gravelly CLAY
BH703	15D	2.80	2.80	17.5	AXE	0	39	20	19	Orangish brown slightly sandy silty CLAY

general remarks:  
 natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014  
 NP denotes non-plastic  
 # denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

specimen preparation: A - as received B - washed on 0.425mm sieve C - air dried	D - oven dried (60°C) E - oven dried (105°C) F - not known	test method: X - cone penetrometer (test 4.3) Y - one point cone penetrometer (test 4.4) Z - Casagrande apparatus (test 4.5)	<b>CONTRACT</b> <b>30766</b>	<b>CHECKED</b> <b>SR</b>
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Geotechnical Engineering Limited  
**LIQUID AND PLASTIC LIMITS**



**BS.1377 : Part 2 : 1990 : 4 and 5**

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	natural water content (%)	specimen preparation and test method	fraction >0.425 mm (%)	liquid limit (%)	plastic limit (%)	plasticity index (%)	description and remarks
	no./type	depth (m)								
BH703	19D	3.80	3.80	20.5	E					Orangish brown slightly sandy clayey SILT
BH703	23D	4.70	4.70	23.7	E					Orangish brown slightly sandy clayey SILT
BH704	7D	1.20	1.20	16.0	E					Brown slightly sandy slightly gravelly clayey SILT
BH704	11D	2.20	2.20	17.5	BXE	4	33	19	14	Brown slightly sandy slightly gravelly CLAY
BH704	15UT	3.20	3.20	24.1	BXE	4	35	20	15	Brown slightly sandy slightly gravelly CLAY with rare rootlets
BH704	19D	3.80	3.80	24.6	BXE	3	33	19	14	Brown slightly sandy slightly gravelly CLAY
BH705	5B	1.00	1.00	11.0	BXE	24	28	19	9	Yellowish brown slightly sandy gravelly silty CLAY
BH705	10D	1.90	1.90	10.1	E					Yellowish brown slightly clayey sandy GRAVEL
BH705	14D	3.00	3.00	11.7	BXE#	63	25	15	10	Light brown slightly sandy gravelly CLAY
BH706	9D	1.40	1.40	18.2	BXE	1	35	21	14	Orangish brown slightly sandy CLAY
BH707	44D	8.90	8.90	17.4	E					Brown clayey SILT
BH708	3B	0.50	0.50	10.2	BXE	35	38	17	21	Brown slightly sandy slightly gravelly CLAY
BH708	11D	1.80	1.80	26.4	BXE	32	52	25	27	Brownish black mottled yellow slightly sandy slightly gravelly CLAY
BH708	15D	2.40	2.40	21.1	BXE	19	35	17	18	Brown slightly sandy slightly gravelly CLAY
BH708	18D	2.80	2.80	27.7	E					Brown slightly sandy slightly gravelly CLAY
BH708	26D	4.20	4.20	20.3	E					Light brown slightly sandy slightly gravelly CLAY
BH708	30UT	5.20	5.30	24.2	AXE	0	38	24	14	Brownish green and grey slightly sandy CLAY
BH708	32D	5.70	5.70	15.5	BXE	17	35	20	15	Brown slightly sandy slightly gravelly CLAY

general remarks:

natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014

NP denotes non-plastic

# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

specimen preparation:

A - as received

B - washed on 0.425mm sieve

C - air dried

D - oven dried (60°C)

E - oven dried (105°C)

F - not known

test method:

X - cone penetrometer (test 4.3)

Y - one point cone penetrometer (test 4.4)

Z - Casagrande apparatus (test 4.5)

CONTRACT

**30766**

CHECKED

**SR**

# LIQUID AND PLASTIC LIMITS



BS.1377 : Part 2 : 1990 : 4 and 5

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	natural water content (%)	specimen preparation and test method	fraction >0.425 mm (%)	liquid limit (%)	plastic limit (%)	plasticity index (%)	description and remarks
	no./type	depth (m)								
BH708	38D	6.90	6.90	16.3	BXE	12	30	18	12	Brown slightly sandy slightly gravelly CLAY
BH708	42D	8.20	8.20	24.1	BXE	4	36	18	18	Light brown slightly sandy slightly gravelly CLAY
BH708	44D	8.30	8.30	24.6	E					Brown slightly sandy slightly gravelly CLAY
TP301	11D	2.00	2.00	25.7	E					Black mottled off white clayey gravelly SAND
TP301	15D	2.40	2.40	24.1	E					Off white mottled brownish grey silty gravelly SAND
TP302	15D	2.50	2.50	20.7	E					Grey slightly sandy slightly gravelly CLAY. Gravel is CHALK
TP302	20D	3.50	3.50	21.6	BXE	2	27	23	4	Off white slightly sandy slightly gravelly CHALK
TP701	4D	0.50	0.50	8.8	E					Brown slightly sandy slightly gravelly CLAY with rare rootlets
TP701	6D	1.00	1.00	19.3	BXE	7	37	17	20	Brown slightly sandy slightly gravelly CLAY
TP701	12D	2.00	2.00	18.9	E					Brown slightly sandy CLAY
TP701	16D	2.50	2.50	17.2	BXE	6	34	18	16	Brown slightly sandy slightly gravelly CLAY
TP701	21D	3.20	3.20	22.5	AXE	0	30	22	8	Light brown slightly sandy CLAY
TP702	5D	1.00	1.00	6.7	E					Yellowish brown slightly clayey slightly gravelly SAND
TP702	9D	1.50	1.50	17.4	BXE	36	39	20	19	Greyish brown slightly sandy slightly gravelly CLAY
TP702	11D	2.00	2.00	15.6	E					Orangish brown slightly sandy slightly gravelly CLAY
TP702	15D	2.50	2.50	19.0	BXE	7	32	18	14	Brown slightly sandy slightly gravelly silty CLAY
TP702	18D	3.00	3.00	24.2	E					Brown slightly sandy slightly gravelly CLAY
TP702	21D	3.40	3.40	22.6	BXE	3	32	20	12	Brown slightly sandy slightly gravelly CLAY

general remarks:

natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014

NP denotes non-plastic

# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

specimen preparation:

A - as received

B - washed on 0.425mm sieve

C - air dried

D - oven dried (60°C)

E - oven dried (105°C)

F - not known

test method:

X - cone penetrometer (test 4.3)

Y - one point cone penetrometer (test 4.4)

Z - Casagrande apparatus (test 4.5)

CONTRACT

**30766**

CHECKED

**SR**

# LIQUID AND PLASTIC LIMITS



BS.1377 : Part 2 : 1990 : 4 and 5

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	natural water content (%)	specimen preparation and test method	fraction >0.425 mm (%)	liquid limit (%)	plastic limit (%)	plasticity index (%)	description and remarks
	no./type	depth (m)								
WS101	11U	2.00	2.00	79.2	BYE	44	86	NP		Greyish brown and orangish brown slightly sandy slightly gravelly SILT
WS101	23U	4.00	4.00	75.1	BYE	71	83	65	18	Greyish brown slightly sandy slightly gravelly SILT
WS101	30U	6.00	6.00	62.3	BYE	25	50	NP		Dark brown slightly sandy organic SILT
WS102	12U	2.00	2.20	66.9	BYE	65	97	NP		Greyish brown sandy slightly gravelly SILT
WS102	24U	4.00	4.25	81.1	BYE	61	89	NP		Greyish brown silty slightly gravelly SILT
WS202	17X	3.00	3.00	31.4	BZE#	35	55	46	9	Greyish brown slightly sandy slightly gravelly SILT
WS202	43U	11.00	11.30	60.0	BXE	1	82	33	49	Greyish brown slightly sandy CLAY
WS203	11U	2.00	2.00	57.9	BXE	45	65	NP		Greyish brown sandy slightly gravelly SILT
WS204	27X	5.00	5.00	33.8	BXE	63	51	40	11	Brownish white slightly sandy slightly gravelly SILT

general remarks:

natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014

NP denotes non-plastic

# denotes sample tested is smaller than that which is recommended in accordance with BS1377 or BS EN ISO 17892

specimen preparation:

A - as received

B - washed on 0.425mm sieve

C - air dried

D - oven dried (60°C)

E - oven dried (105°C)

F - not known

test method:

X - cone penetrometer (test 4.3)

Y - one point cone penetrometer (test 4.4)

Z - Casagrande apparatus (test 4.5)

CONTRACT

**30766**

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**SR**

# SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 µm (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
101		5.20-5.65	UT	Soft grey organic silty CLAY with rare fine gravel.	102	108	34	74	100									Effective stress Triaxial
101		9.20-9.65	UT	Soft to firm black fibrous PEAT.	474		NP		100									Effective stress Triaxial

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)



NP=Non Plastic

Checked and Approved by  Senior Technician 09/10/2015	Project Number:  <b>GEO / 23014</b>  Project Name:  <b>LONDON PARAMOUNT ENTERTAINMENT RESORT</b>  <b>30766</b>	
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# SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 µm (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
BH204	UT21	5.20-5.65	U	Soft to firm grey CLAY with rare fine sand and some patches of black organic rich material.	60	78	34	44	100	1.69	1.06	110	51	26				Triaxial Permeability

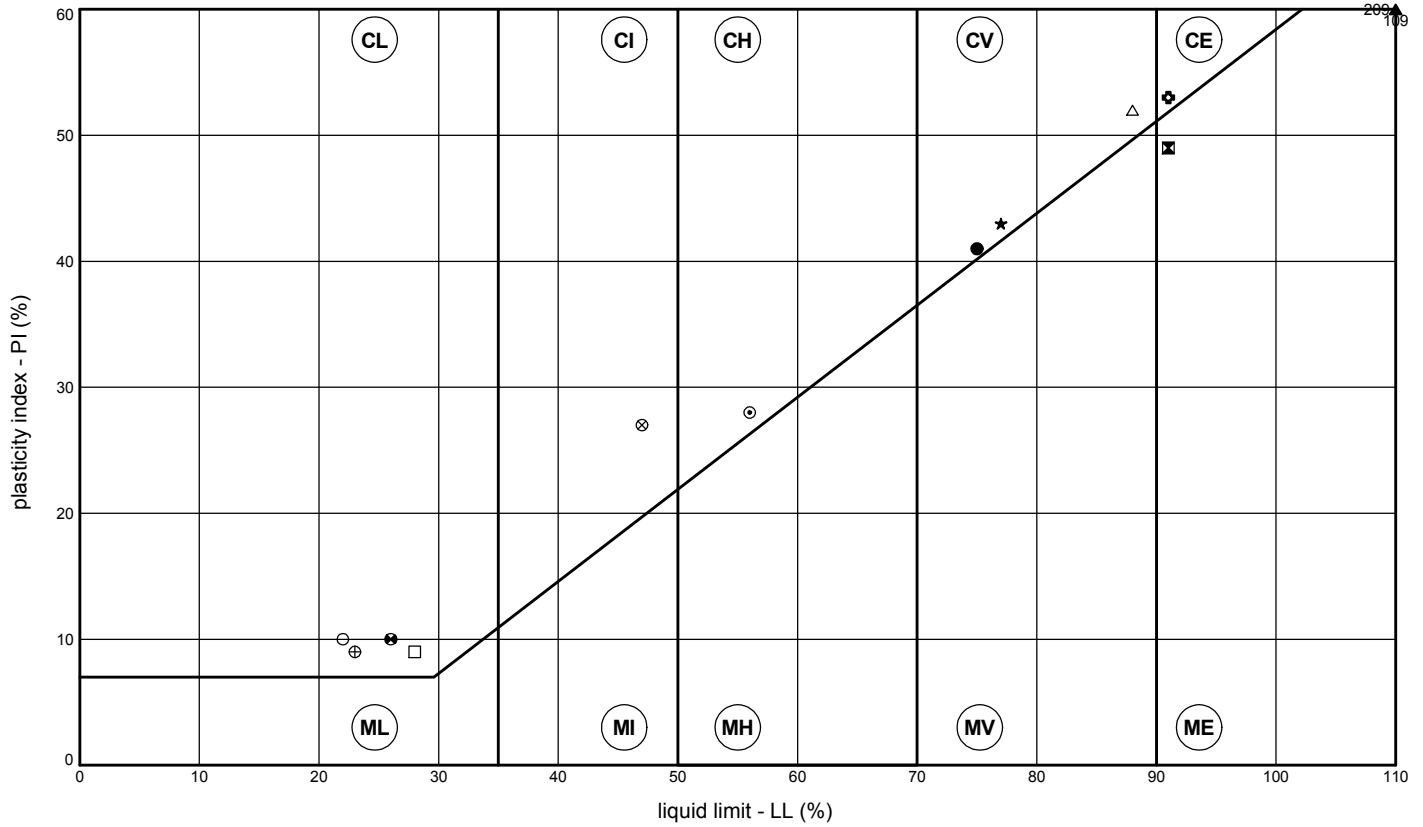
Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by  Operations Manager 17/08/2015	Project Number: <b>GEO / 22927</b>  Project Name: <b>LONDON PARAMOUNT ENTERTAINMENT RESORT</b> <b>30766</b>	
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Geotechnical Engineering Limited  
**ATTERBERG LINE PLOT**



CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT



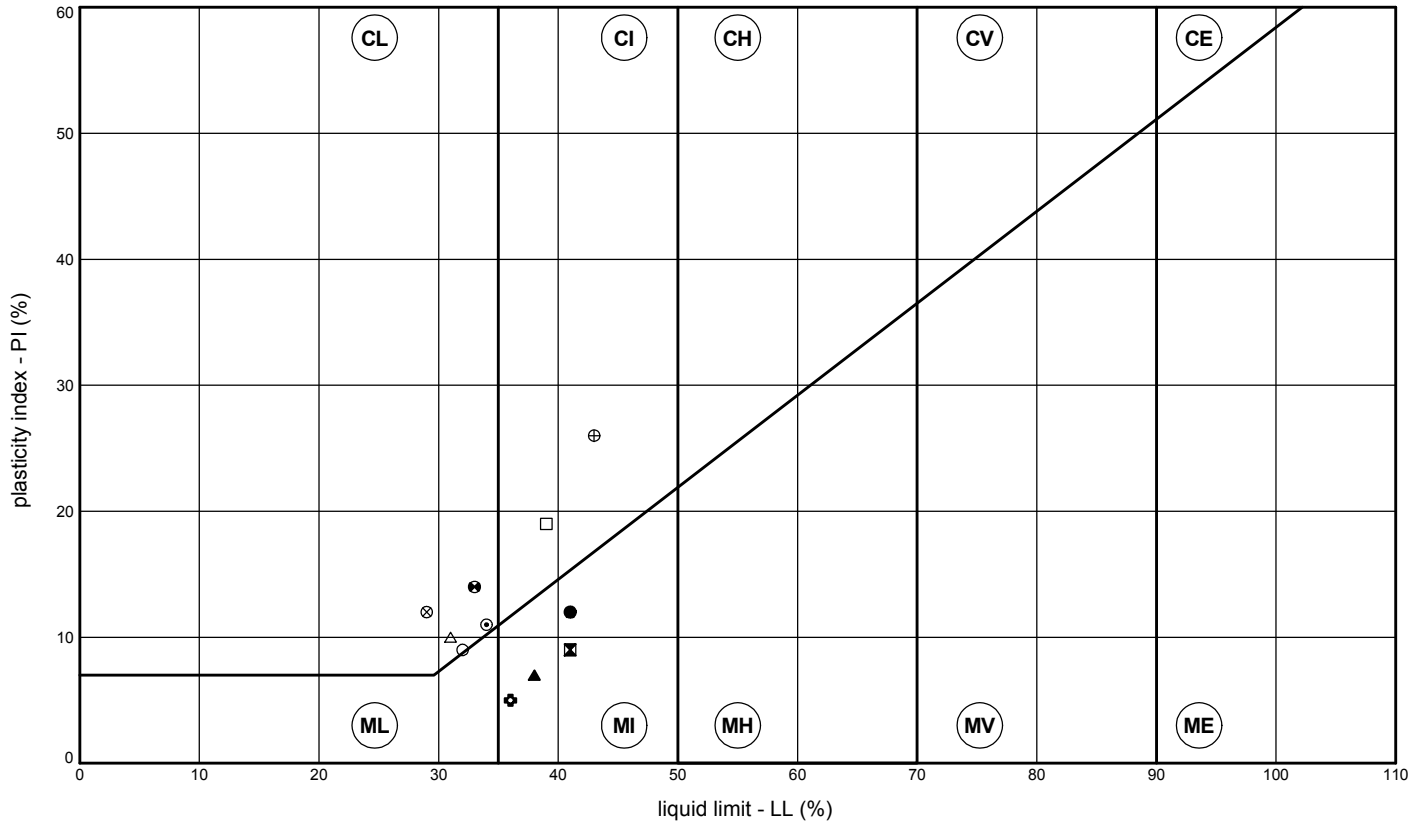
	BH/TP No.	depth (m)	LL	PL	PI	remarks
●	BH101	7.35	75	34	41	
⊠	BH101	8.20	91	42	49	
▲	BH101	10.50	209	100	109	
★	BH101	12.10	77	34	43	
⊙	BH203	3.20	56	28	28	
⊕	BH203	4.20	91	38	53	
○	BH203	6.00	22	12	10	
△	BH204	4.00	88	36	52	
⊗	BH204	6.20	47	20	27	
⊕	BH204	9.00	23	14	9	
□	BH204	10.00	28	19	9	
⊕	BH204	11.00	26	16	10	

CONTRACT <b>30766</b>	CHECKED <b>SR</b>
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Geotechnical Engineering Limited  
**ATTERBERG LINE PLOT**



CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT



	BH/TP No.	depth (m)	LL	PL	PI	remarks
●	BH501	1.70	41	29	12	
⊠	BH501	3.10	41	32	9	
▲	BH501	4.10	38	31	7	
★	BH501	6.90	41	29	12	
⊙	BH502	1.00	34	23	11	
⊕	BH502	2.20	36	31	5	
○	BH502	4.20	32	23	9	
△	BH502	7.20	31	21	10	
⊗	BH502	9.20	29	17	12	
⊕	BH502	11.40	43	17	26	
□	BH703	2.80	39	20	19	
⊕	BH704	2.20	33	19	14	

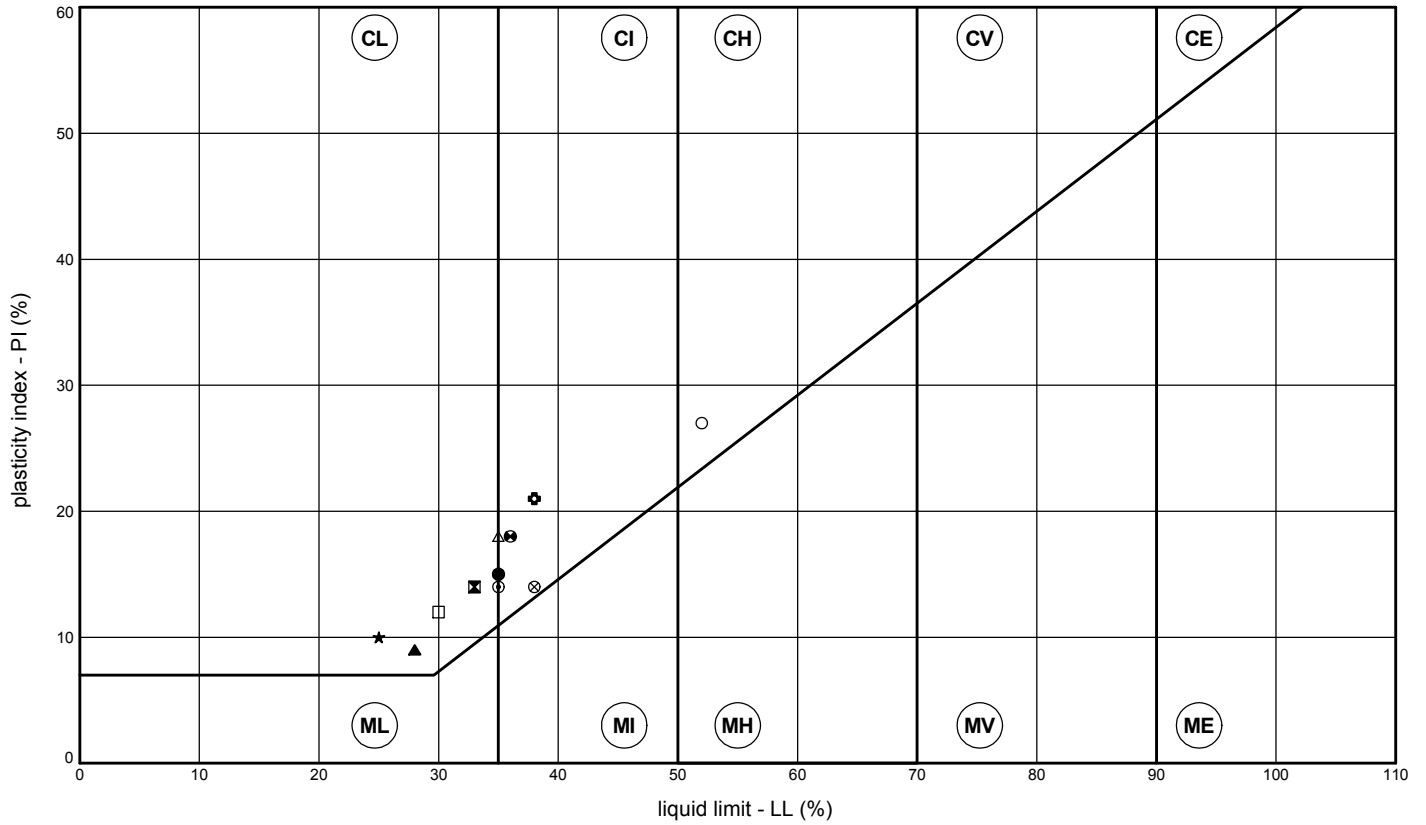
CONTRACT <b>30766</b>	CHECKED <b>SR</b>
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Geotechnical Engineering Limited  
**ATTERBERG LINE PLOT**



CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT



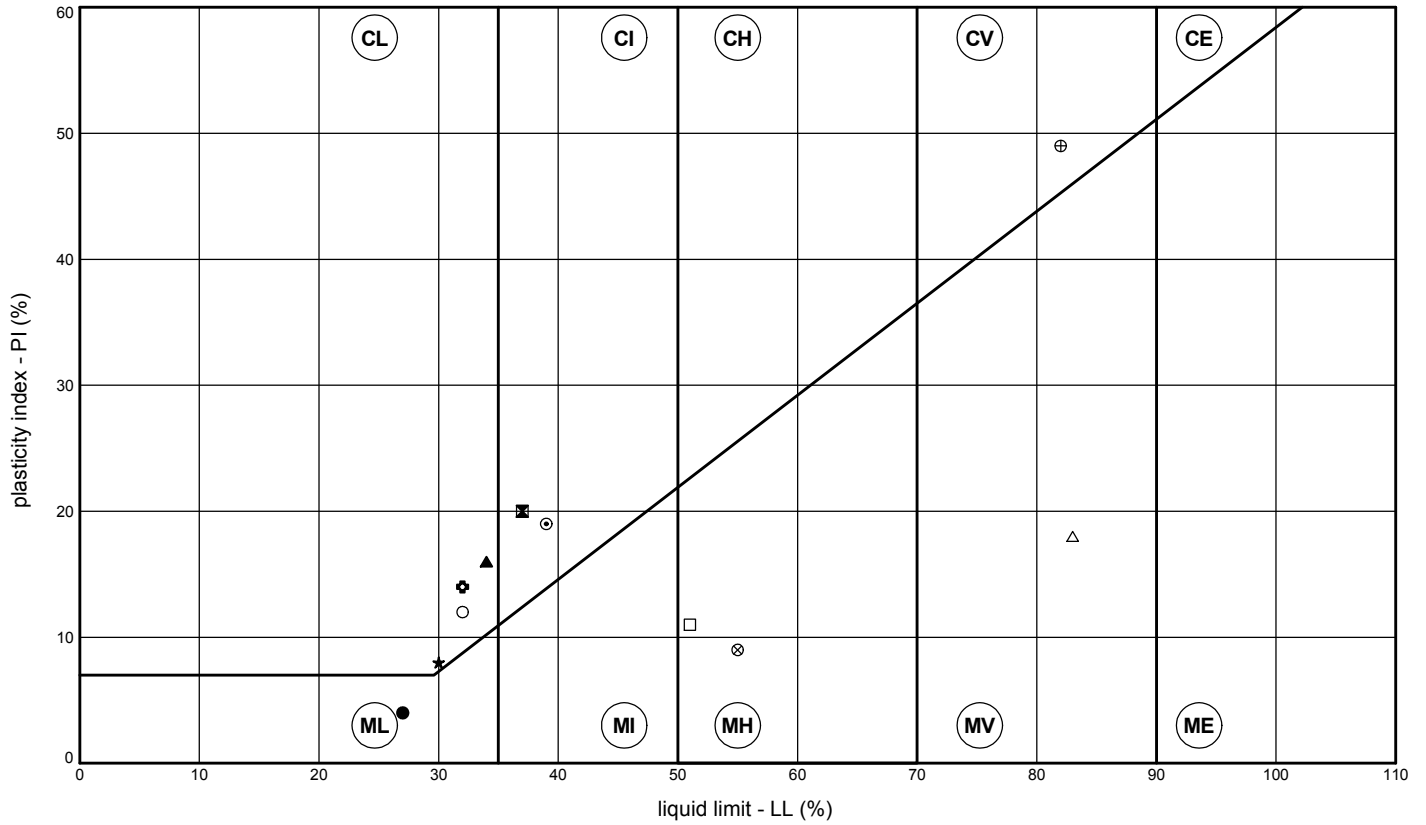
BH/TP No.	depth (m)	LL	PL	PI	remarks
●	BH704	35	20	15	
⊠	BH704	33	19	14	
▲	BH705	28	19	9	
★	BH705	25	15	10	
⊙	BH706	35	21	14	
⊕	BH708	38	17	21	
○	BH708	52	25	27	
△	BH708	35	17	18	
⊗	BH708	38	24	14	
⊕	BH708	35	20	15	
□	BH708	30	18	12	
⊕	BH708	36	18	18	

CONTRACT <b>30766</b>	CHECKED <b>SR</b>
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Geotechnical Engineering Limited  
**ATTERBERG LINE PLOT**



CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT



BH/TP No.	depth (m)	LL	PL	PI	remarks
● TP302	3.50	27	23	4	
⊠ TP701	1.00	37	17	20	
▲ TP701	2.50	34	18	16	
★ TP701	3.20	30	22	8	
⊙ TP702	1.50	39	20	19	
⊕ TP702	2.50	32	18	14	
○ TP702	3.40	32	20	12	
△ WS101	4.00	83	65	18	
⊗ WS202	3.00	55	46	9	
⊕ WS202	11.30	82	33	49	
□ WS204	5.00	51	40	11	

CONTRACT <b>30766</b>	CHECKED <b>SR</b>
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# INDEX PROPERTIES - SUMMARY OF RESULTS

Project No	Project Name
N5110-15	LONDON PARAMOUNT ENTERTAINMENT RESORT

Hole No.	Sample			Soil Description	$\rho$	$\rho_d$	W	< 425 $\mu$ m sieve	W <sub>L</sub>	W <sub>P</sub>	I <sub>p</sub>	$\rho_s$	Remarks
	No.	Depth (m)											
		from	to										
BH101	12	2.20	2.65	UT	Firm dark brown mottled black organic CLAY.	1.39	0.66	109	100 n	137 a	59	78	
BH101	17	3.00	3.20	B	Grey sandy GRAVEL.			24	28 s	35 b	27	8	
BH101	19	4.00	4.20	B	Brown slightly sandy slightly gravelly CLAY.			100					
BH201	23	6.70	7.15	UT	Stiff brownish grey slightly sandy clayey SILT.	1.60	0.95	69	100 n	73 a	60	13	
BH201	27	7.30	7.40	D	Brown slightly sandy CLAY.			111					
BH202	7	1.00	1.20	UT	Brown slightly sandy slightly gravelly CLAY.			39	56 s	57 a	44	13	
BH202	11	2.00	2.20	B	Stiff light greyish brown sandy CHALK.			88	43 s	83 b	NP		
BH202	18	3.20	3.65	D	Brown slightly sandy CLAY.			58	66 s	113 b	94	19	
BH202	25	5.20	5.65	D	Greyish brown slightly sandy silty CLAY.			119					
BH202	28	6.20	6.60	UT	Grey slightly sandy SILT.				100 n	131 a	95	36	
BH202	32	8.00	8.20	B	Grey slightly sandy slightly gravelly CLAY.			100	100 n	101 a	69	32	
BH202	38	9.20	9.65	D	Black slightly gravelly slightly clayey PEAT.			186					
BH202	46	11.50	11.95	D	Greenish grey CLAY with rare shell fragments and plant remains.			80					
BH202	56	14.50	14.95	D	Dark brownish grey clayey PEAT.			290					
BH202	64	17.50	17.95	D	Grey sandy gravelly CLAY.			21	29 s	52 b	29	23	
BH204	9	3.00	3.30	B	Brown slightly sandy slightly gravelly CLAY.			52	90 s	68 a	31	37	
BH204	13	3.30	3.75	U									
BH703	9	1.20	1.30	D	Light brown slightly gravelly CLAY.			17	92 s	27 a	18	9	
BH707	9	1.30	1.45	D	Brown slightly sandy slightly gravelly CLAY.			16	80 s	35 a	19	16	
BH707	15	2.35	2.45	D	Brown slightly sandy slightly gravelly CLAY.			23					
BH707	21	3.30	3.40	D	Browish black slightly sandy slightly gravelly CLAY.			102	66 s	49 a	33	16	
BH707	27	4.40	4.50	D	Brown slightly sandy slightly gravelly CLAY.			17					
BH707	31	5.20	5.65	D	Brown slightly sandy CLAY.			20					
BH707	33	5.60	5.70	D									
BH707	44	8.90	9.00	D									
TP301	5	1.00		D	White CHALK composed of slightly gravelly clay.			20	86 s	28 a	20	8	
TP302	3	0.50		D	Brown slightly sandy slightly gravelly CLAY.			11	36 s	38 b	NP		
TP302	9	1.50		D	Brown slightly sandy slightly gravelly CLAY.			21					
TP302	11	2.00		D	White gravelly CHALK.			20					
WS101	7	1.20	1.65	D	Light brown sandy CLAY.			60					
WS101	16	2.80	2.90	D	Light brown sandy CLAY.			76					
WS102	7	1.20	1.65	D	Brown sandy CLAY.			56	100 n	69 b	NP		

General notes: All above tests carried out to BS1377 : 1990 unless annotated otherwise. See individual test reports for further details.

Key :  $\rho$  bulk density, linear      W<sub>L</sub> Liquid limit      W<sub>P</sub> Plastic limit      <425um preparation       $\rho_s$  particle density  
 $\rho_d$  dry density      a 4 point cone test      NP non - plastic      n from natural soil      -g = gas jar  
w moisture content      b 1 point cone test      I<sub>p</sub> Plasticity Index      s sieved specimen      -p = small pycnometer

# INDEX PROPERTIES - SUMMARY OF RESULTS

Project No	Project Name													
N5110-15	LONDON PARAMOUNT ENTERTAINMENT RESORT													
Hole No.	Sample				Soil Description	$\rho$	$\rho_d$	$W$	< 425 $\mu\text{m}$ sieve	$W_L$	$W_P$	$I_P$	$\rho_s$	Remarks
	No.	Depth (m)		type										
		from	to			$\text{Mg/m}^3$	%	%	%	%	$\text{Mg/m}^3$			
WS102	17	2.80	2.90	D	Brown slightly sandy CLAY.			85						
WS102	21	3.30	3.40	D	Brown slightly sandy slightly gravelly CLAY.			92						
WS102	29	4.80	4.90	D	Brown slightly sandy CLAY.			60						
WS202	16	2.80	2.90	D	Light brown clayey SAND.			49						
WS202	20	3.80	3.90	D	Light brown clayey SAND.			55						
WS202	26	6.00	6.45	D	Light brown clayey SAND.			55						
WS202	29	7.00	7.45	D	Light brown sandy CLAY.			58						
WS202	35	8.80	8.90	D	Light brown clayey SAND.			74						
WS203	7	1.20	1.65	D	Brown slightly sandy CLAY.			57						
WS203	20	3.80	3.90	D	Brown slightly sandy CLAY.			69						
WS204	5	1.00	1.20	B	Brown very sandy silty GRAVEL.			65	27 s	82 a	66	16		
WS204	10	1.55	1.65	D										
WS204	16	3.00	3.45	D	Light brown sandy CLAY.			46	76 s	73 a	57	16		
WS204	19	3.55	3.65	D	Brown slightly sandy CLAY.			45						
WS204	29	6.00	6.45	D	Brown slightly sandy CLAY.			57						
WS204	34	7.55	7.65	D	Light brown slightly sandy CLAY.			53						
WS301	5	1.00	1.20	B	Grey very gravelly very silty SAND.			14	55 s	28 a	20	8		

General notes: All above tests carried out to BS1377 : 1990 unless annotated otherwise. See individual test reports for further details.

Key :  $\rho$  bulk density, linear       $W_L$  Liquid limit       $W_P$  Plastic limit      <425um preparation       $\rho_s$  particle density  
 $\rho_d$  dry density      a 4 point cone test      NP non - plastic      n from natural soil      -g = gas jar  
 $w$  moisture content      b 1 point cone test       $I_P$  Plasticity Index      s sieved specimen      -p = small pycnometer

# DENSITY - LABORATORY

BS EN ISO 17892 - 2 : 2014



CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	test method	natural water content (%)	bulk density (Mg/m <sup>3</sup> )	dry density (Mg/m <sup>3</sup> )	description and remarks
	no./type	depth (m)						
BH708	30UT	5.20	5.30	A	24.2	1.96	1.58	Brownish green and grey slightly sandy CLAY
WS102	12U	2.00	2.20	B	66.9	1.45	0.87	Greyish brown sandy slightly gravelly SILT
WS102	24U	4.00	4.25	B	81.1	1.47	0.81	Greyish brown silty slightly gravelly SILT
WS202	44X	11.00	11.60	A	68.4	1.44	0.86	Brown slightly sandy slightly gravelly CLAY

general remarks:

# denotes sample tested is smaller than that which is recommended in accordance with BS EN ISO 17892 - 2 : 2014

test method:

- A - linear measurement (5.1)
- B - immersion in fluid (5.2)
- C - fluid displacement (5.3)

CONTRACT

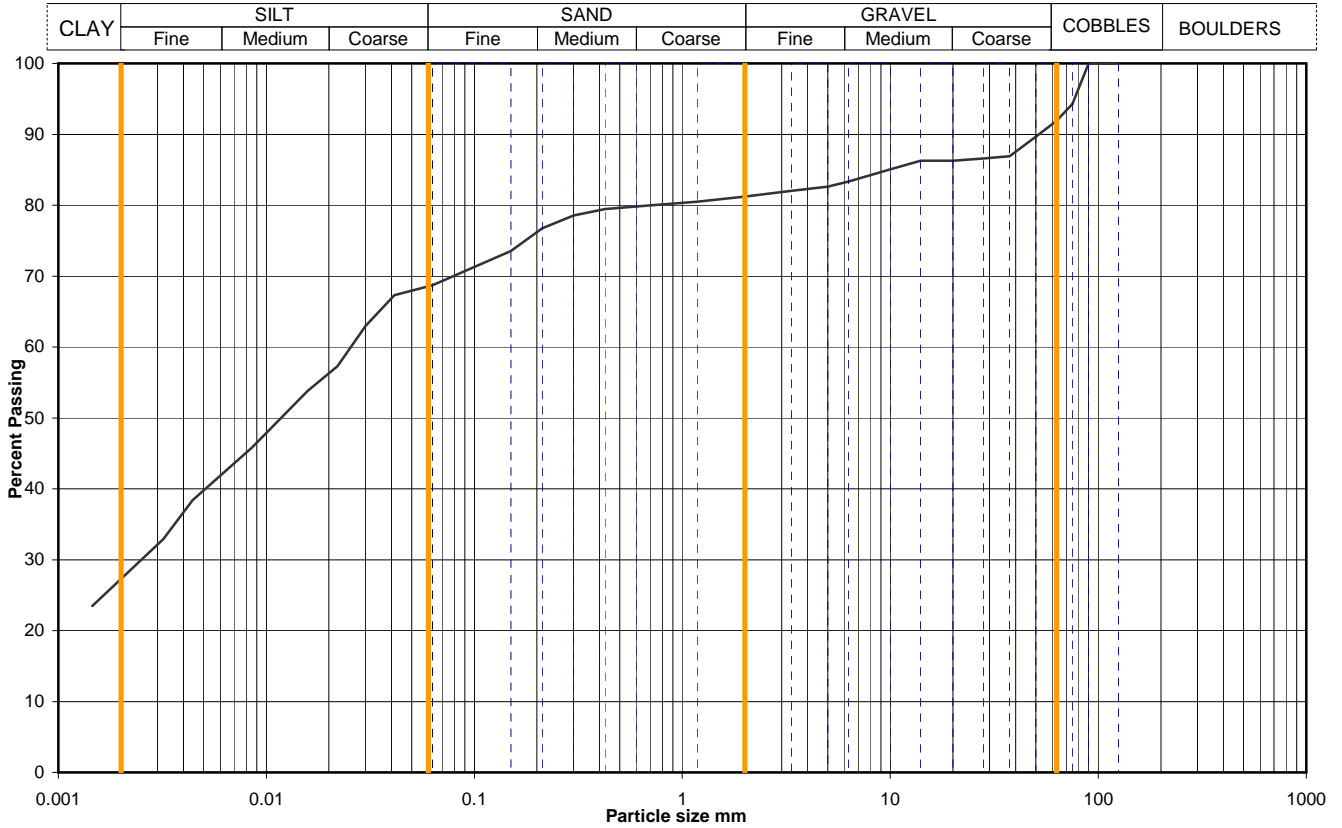
**30766**

CHECKED

**SR**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH101		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.40		
			Samp No	8	Type	B
			ID	MASTER3237		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	69
90	100	0.0413	67
75	94	0.0300	63
63	92	0.0219	57
50	90	0.0158	54
37.5	87	0.0085	46
28	87	0.0044	38
20	86	0.0032	33
14	86	0.0015	23
10	85		
6.3	83		
5.0	83		
3.35	82		
2.00	81		
1.18	80		
0.600	80	Particle density, Mg/m <sup>3</sup>	
0.425	79	2.65 assumed	
0.300	79	Dry mass of sample, kg	
0.212	77	8.8	
0.150	74		
0.063	69		

Soil description	Brown slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		8	0
		11	12
		13	14
		41	45
*<60mm values to aid description only		27	29

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

**QA Ref**  
SLR 2,9  
Rev 88  
Aug 11

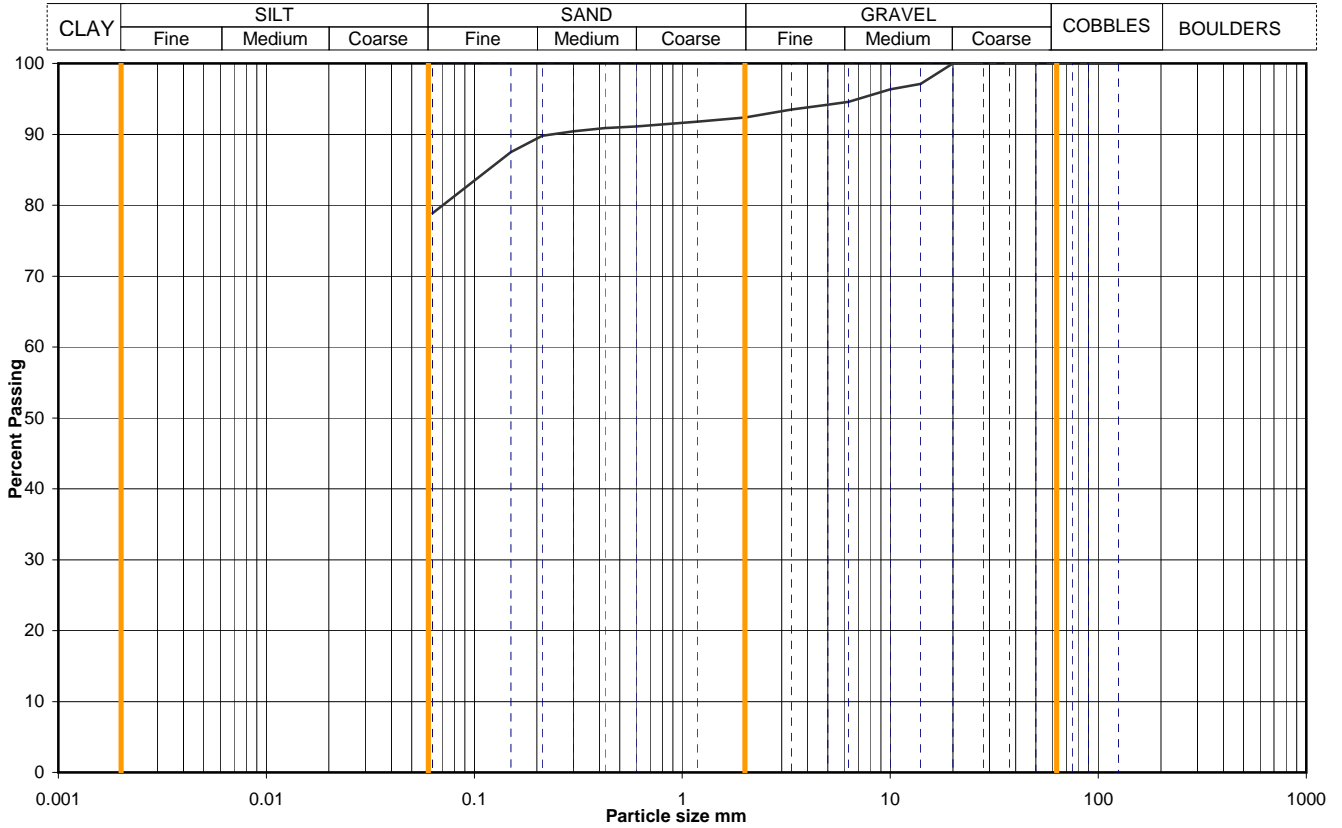


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**Figure**  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH101
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	2.40
			Samp No	13
			Type	B
			ID	MASTER3239
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	97		
10	96		
6.3	95		
5.0	94		
3.35	93		
2.00	92		
1.18	92		
0.600	91		
0.425	91		
0.300	90		
0.212	90		
0.150	88		
0.063	79		
		Dry mass of sample, kg	
		5.5	

Soil description	Black slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions <small>*&lt;60mm values to aid description only</small>	Cobbles / boulders	Whole	*<63mm
		0	0
	Gravel		
		8	8
	Sand	14	14
Silt	silt+clay =		
Clay	78	78	

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
------------------------	-------------------	----------------

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

**QA Ref**  
SLR 2,9  
Rev 88  
Aug 11



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**Figure**  
**PSD**

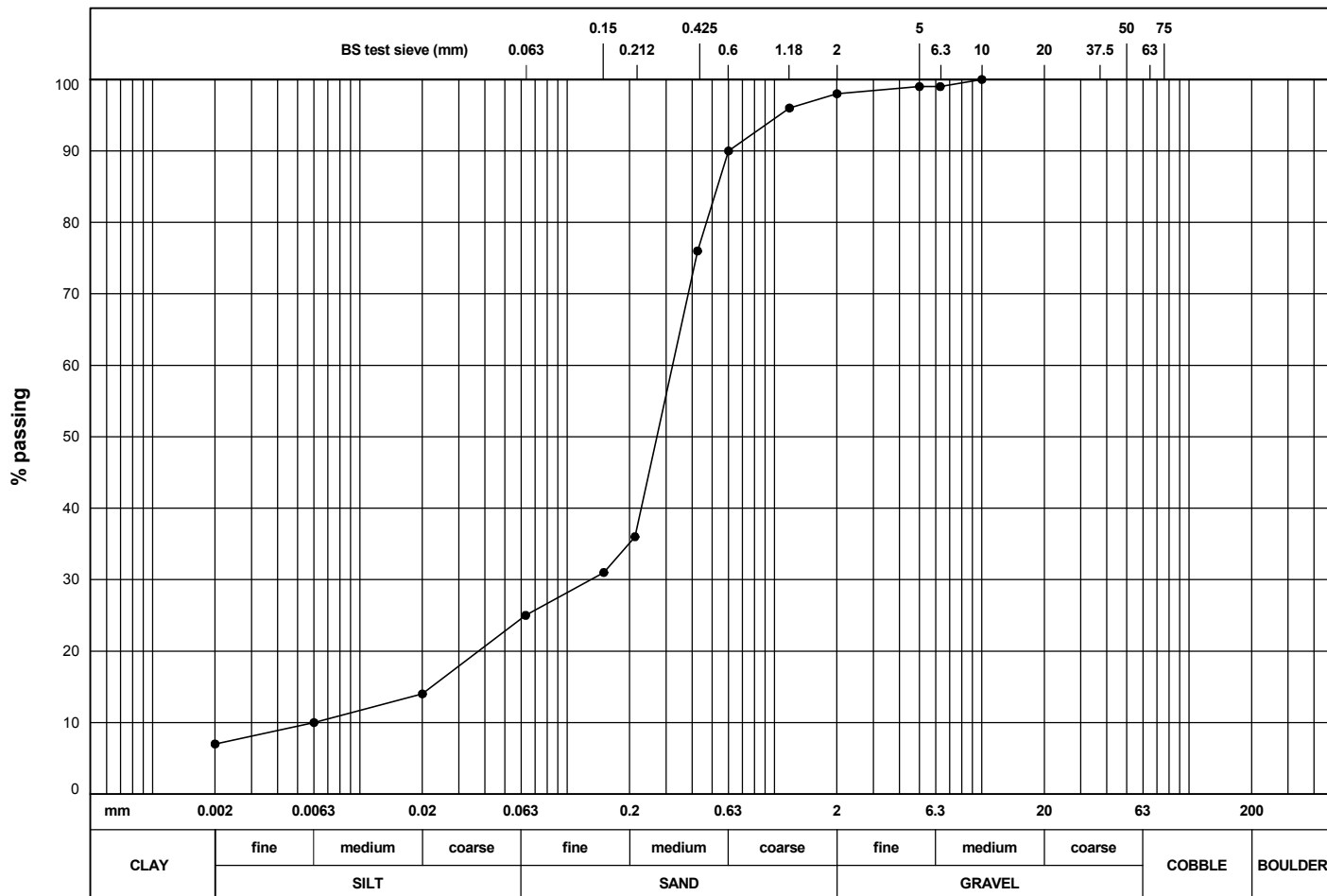
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Greyish brown very silty slightly gravelly SAND

BH/TP No. BH101  
 SAMPLE No./TYPE 59B  
 SAMPLE DEPTH (m) 14.00  
 SPECIMEN DEPTH (m) 14.00



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 19/10/2015 09:14:01

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	7	150		5	99	20	14
SILT	18	75		2	98	6	10
SILT & CLAY	25	63		1.18	96	2	7
SAND	73	50		0.6	90		
GRAVEL	2	37.5		0.425	76		
COBBLE & BOULDER	0	20		0.212	36		
test method(s)	9.2&9.4	10	100	0.15	31		
test method:		6.3	99	0.063	25		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>



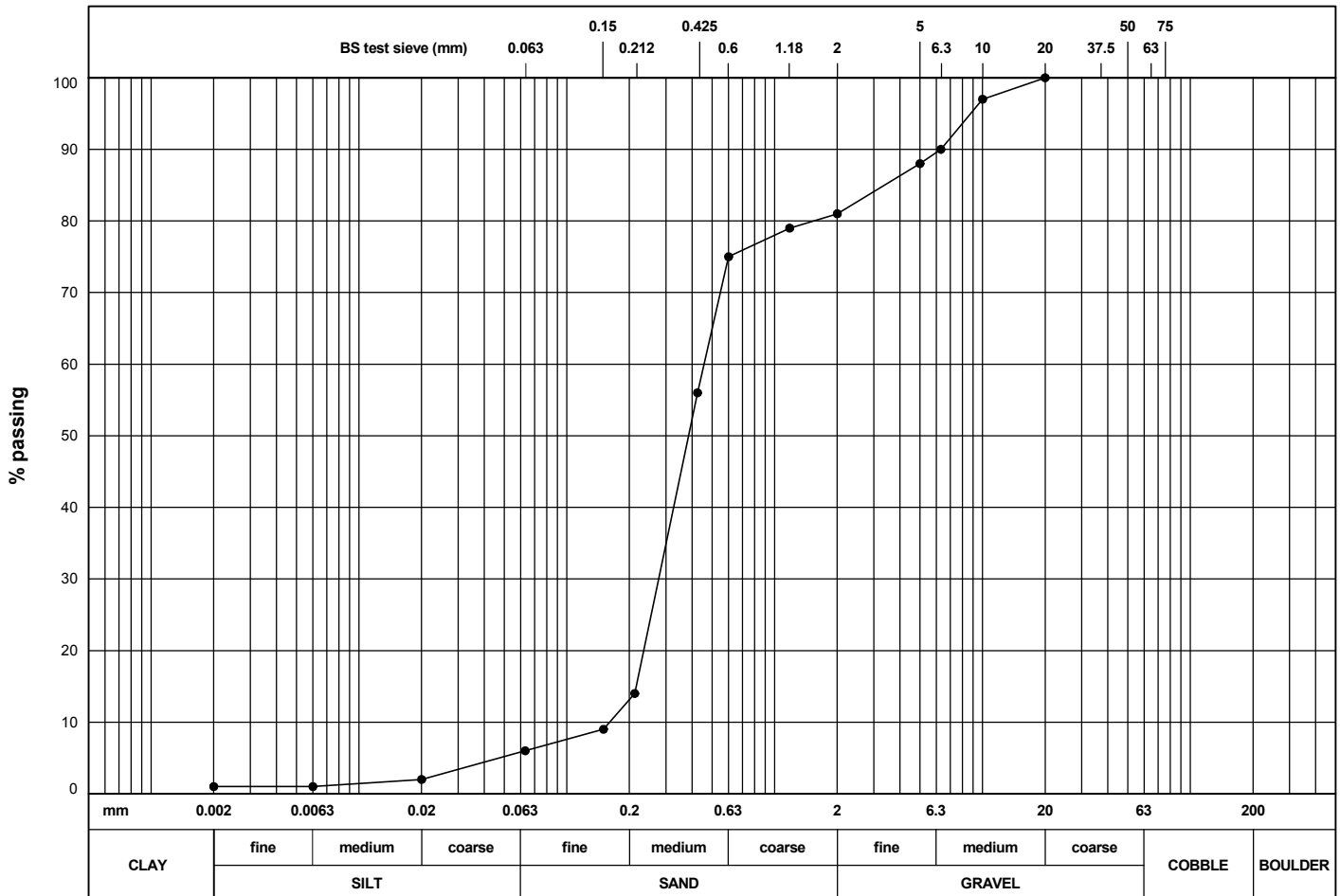
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Greyish brown silty gravelly SAND

BH/TP No. BH101  
 SAMPLE No./TYPE 65B  
 SAMPLE DEPTH (m) 16.00  
 SPECIMEN DEPTH (m) 16.00



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	1	150		5	88	20	2
SILT	5	75		2	81	6	1
SILT & CLAY	6	63		1.18	79	2	1
SAND	75	50		0.6	75		
GRAVEL	19	37.5		0.425	56		
COBBLE & BOULDER	0	20	100	0.212	14		
test method(s)	9.2&9.4#	10	97	0.15	9		
test method:		6.3	90	0.063	6		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

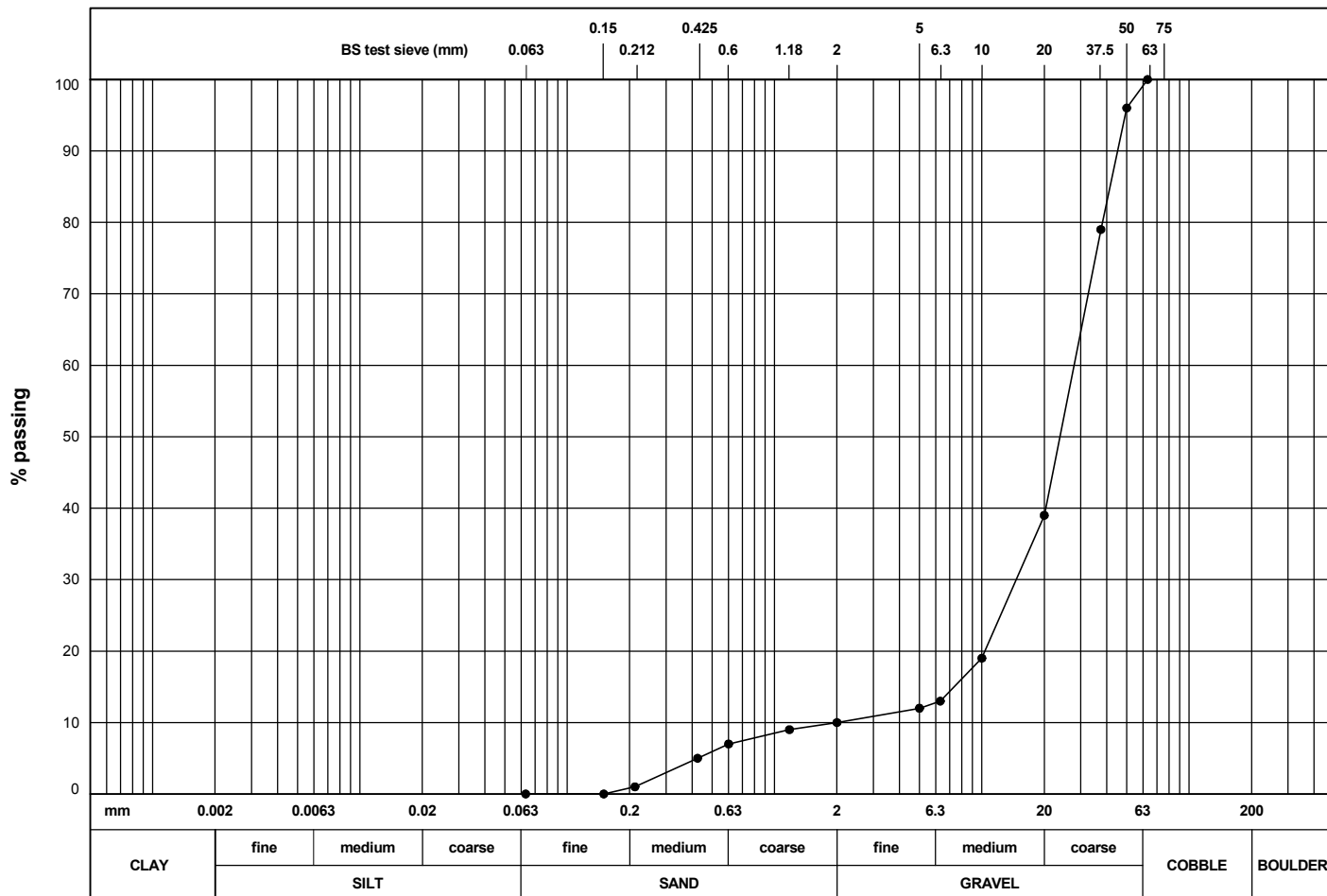
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown sandy GRAVEL

BH/TP No. BH101  
 SAMPLE No./TYPE 69B  
 SAMPLE DEPTH (m) 18.00  
 SPECIMEN DEPTH (m) 18.00



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	12	20	
SILT		75		2	10	6	
SILT & CLAY	0						
SAND	10	63	100	1.18	9	2	
GRAVEL	89						
COBBLE & BOULDER	1						
test method(s)	9.2#	50	96	0.6	7		
		37.5	79	0.425	5		
test method:		20	39	0.212	1		
9.2 - wet sieving		10	19	0.15	0		
9.3 - dry sieving		6.3	13	0.063	0		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

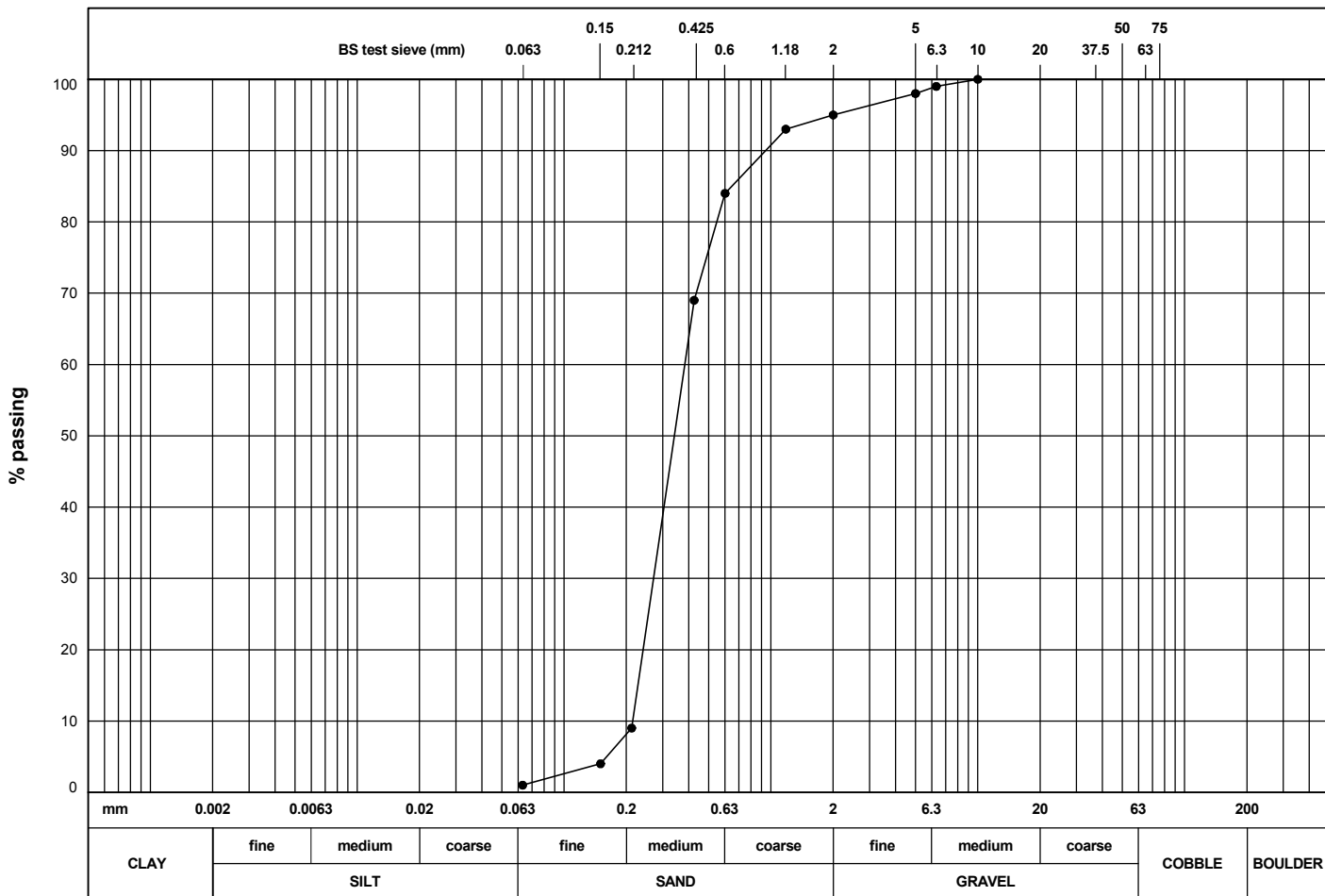
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Yellow brown slightly clayey slightly gravelly SAND

BH/TP No. BH101  
 SAMPLE No./TYPE 71B  
 SAMPLE DEPTH (m) 19.00  
 SPECIMEN DEPTH (m) 19.00



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	98	20	
SILT		75		2	95	6	
SILT & CLAY	1	63		1.18	93	2	
SAND	94	50		0.6	84		
GRAVEL	5	37.5		0.425	69		
COBBLE & BOULDER	0	20		0.212	9		
test method(s)	9.2	10	100	0.15	4		
test method:		6.3	99	0.063	1		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

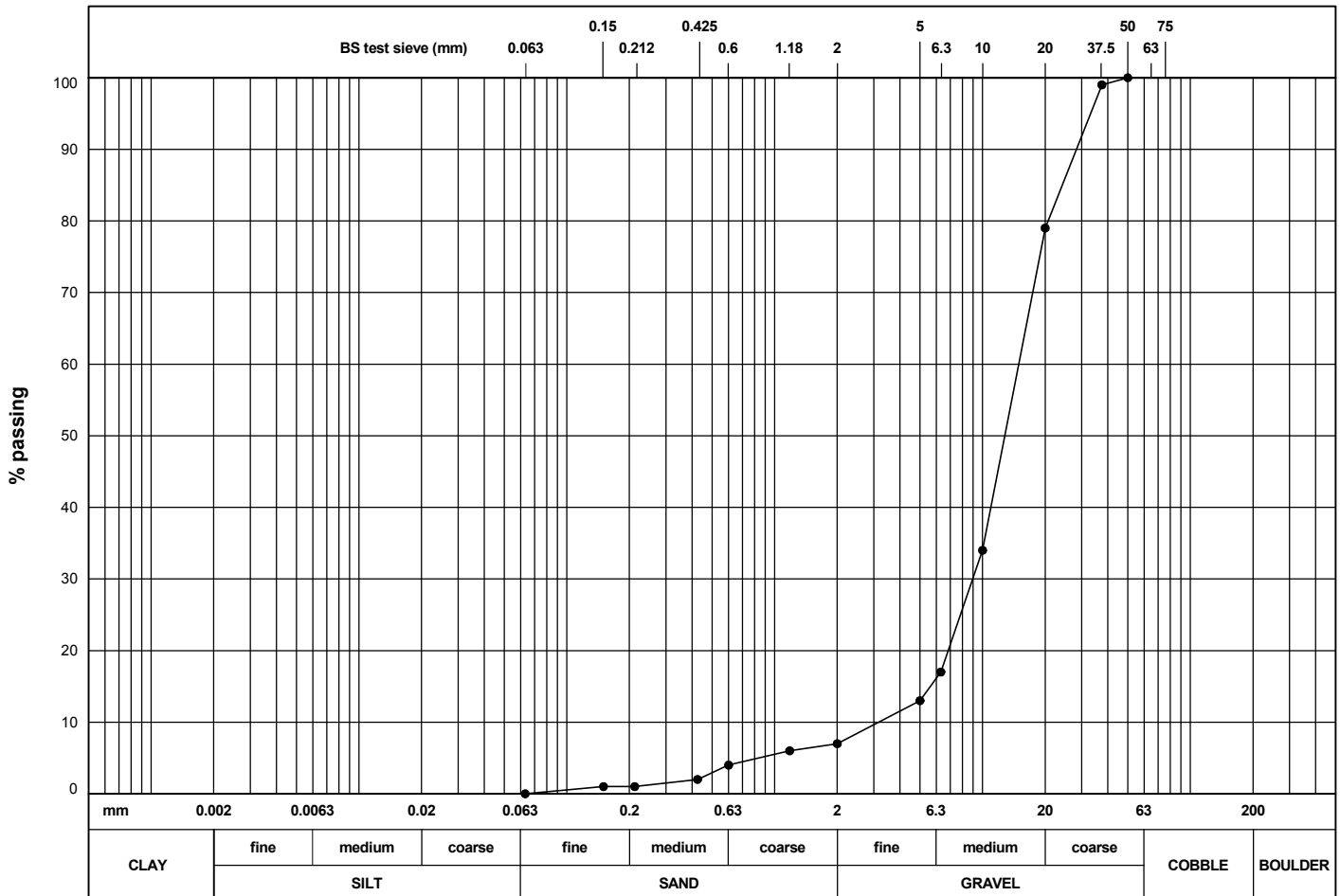
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Yellow brown sandy GRAVEL

BH/TP No. BH101  
 SAMPLE No./TYPE 73B  
 SAMPLE DEPTH (m) 20.00  
 SPECIMEN DEPTH (m) 20.00

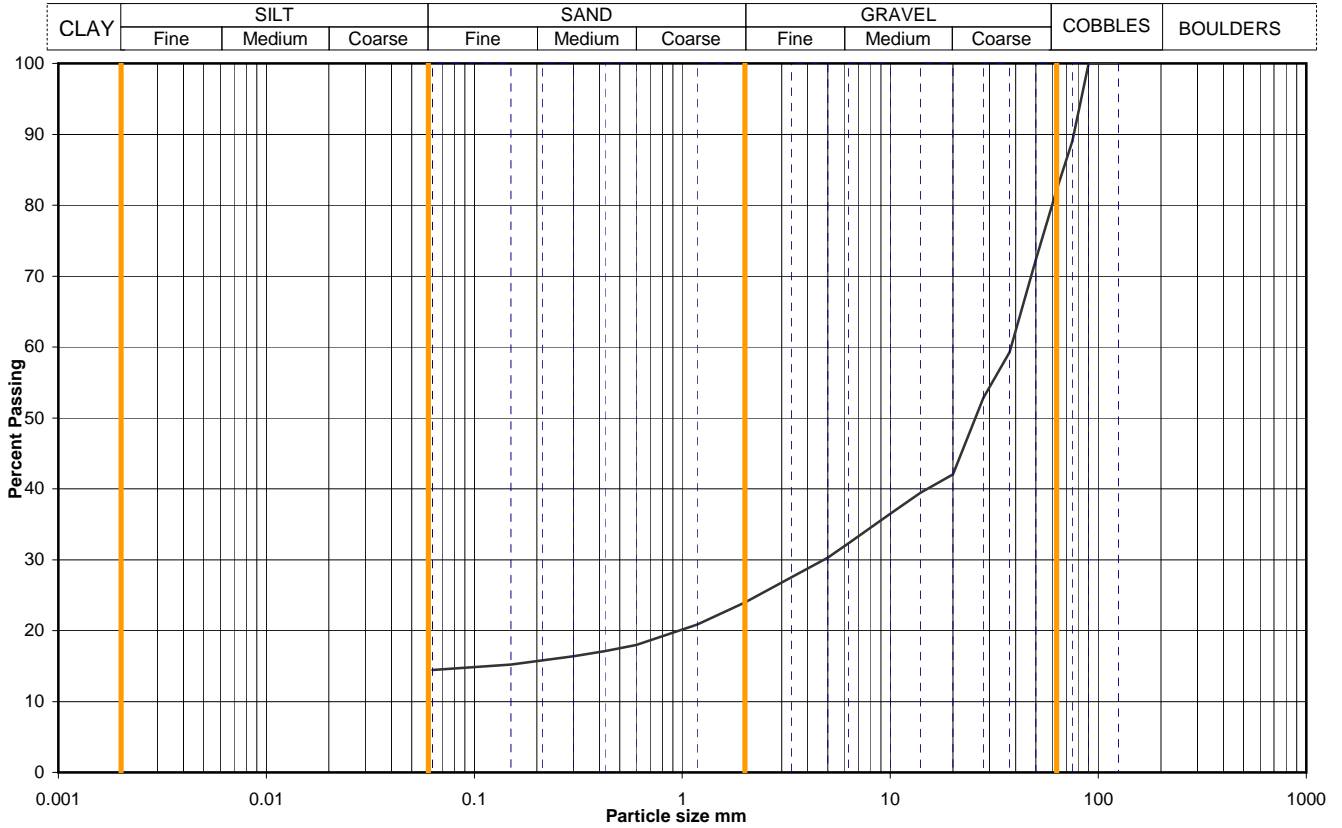


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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	13	20	
SILT		75		2	7	6	
SILT & CLAY	0						
SAND	7						
GRAVEL	93	63		1.18	6	2	
COBBLE & BOULDER	0						
test method(s)	9.2	50	100	0.6	4		
		37.5	99	0.425	2		
test method:		20	79	0.212	1		
9.2 - wet sieving		10	34	0.15	1		
9.3 - dry sieving		6.3	17	0.063	0		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH201		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	2.20		
			Samp No	2	Type	X
			ID	MASTER3242		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	89		
63	82		
50	72		
37.5	59		
28	53		
20	42		
14	39		
10	36		
6.3	32		
5.0	30		
3.35	28		
2.00	24		
1.18	21		
0.600	18		
0.425	17		
0.300	16		
0.212	16		
0.150	15		
0.063	14		
		Dry mass of sample, kg	
		7.8	

Soil description	Grey slightly sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	* < 63mm
		18	0
		58	71
		10	12
		silt+clay =	14

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

QA Ref  
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Aug 11

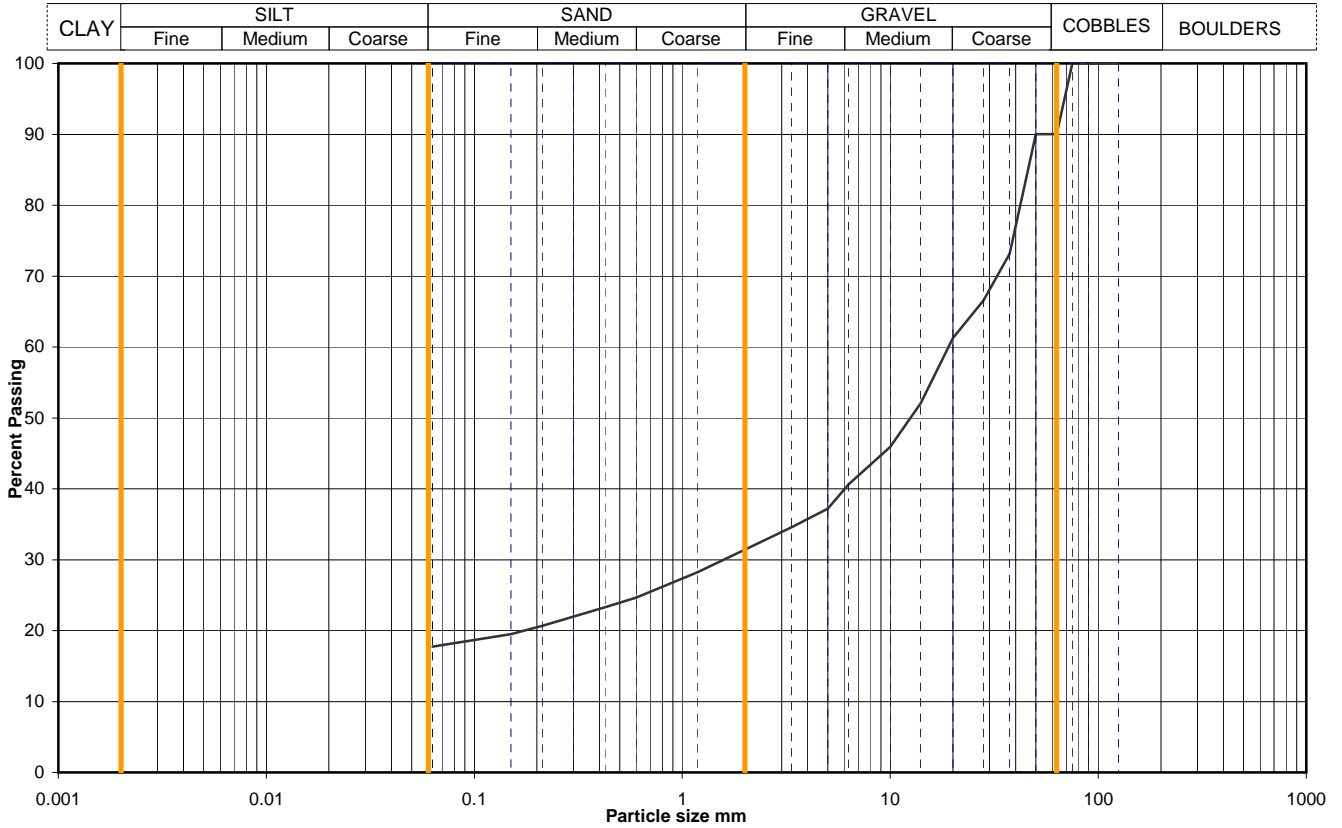


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH201
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.70
			Samp No	10
			Type	X
			ID	MASTER3243
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	90		
50	90		
37.5	73		
28	67		
20	61		
14	52		
10	46		
6.3	41		
5.0	37		
3.35	35		
2.00	31		
1.18	28		
0.600	25		
0.425	23		
0.300	22		
0.212	21		
0.150	20		
0.063	18		
		Dry mass of sample, kg	
		4.8	

Soil description	Grey slightly sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		10	0
		59	66
		14	16
		silt+clay =	17
* < 60mm values to aid description only			

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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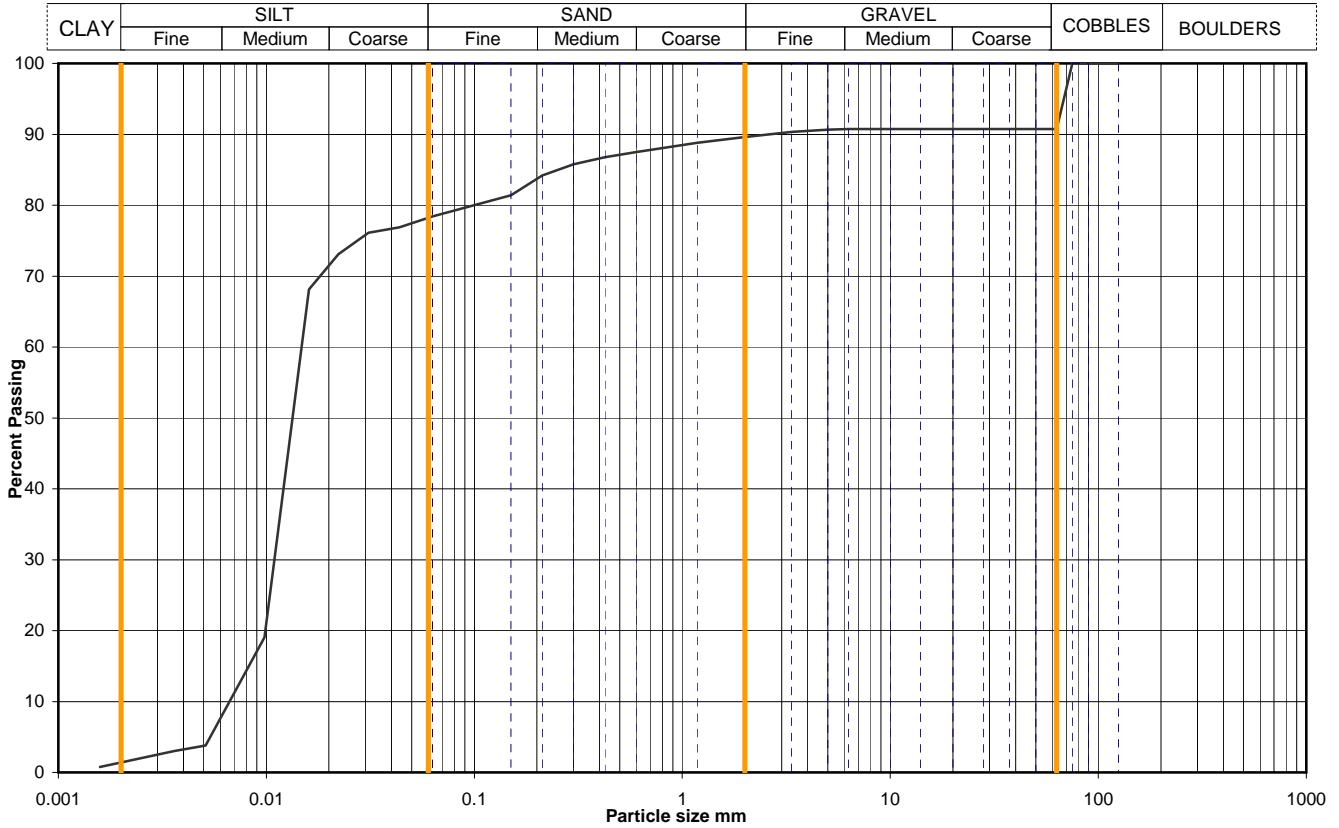


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH201
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	5.70
			Samp No	18
			Type	X
			ID	MASTER3245
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	78
90	100	0.0437	77
75	100	0.0310	76
63	91	0.0222	73
50	91	0.0160	68
37.5	91	0.0098	19
28	91	0.0051	4
20	91	0.0036	3
14	91	0.0016	1
10	91		
6.3	91		
5.0	91		
3.35	90		
2.00	90		
1.18	89		
0.600	88		
0.425	87		
0.300	86		
0.212	84		
0.150	81		
0.063	78		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	5.6

Soil description	Grey slightly sandy slightly gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <63mm
		9	0
		1	1
		11	12
		77	85
* <60mm values to aid description only		2	2

Uniformity Coefficient	$D_{60} / D_{10}$	2
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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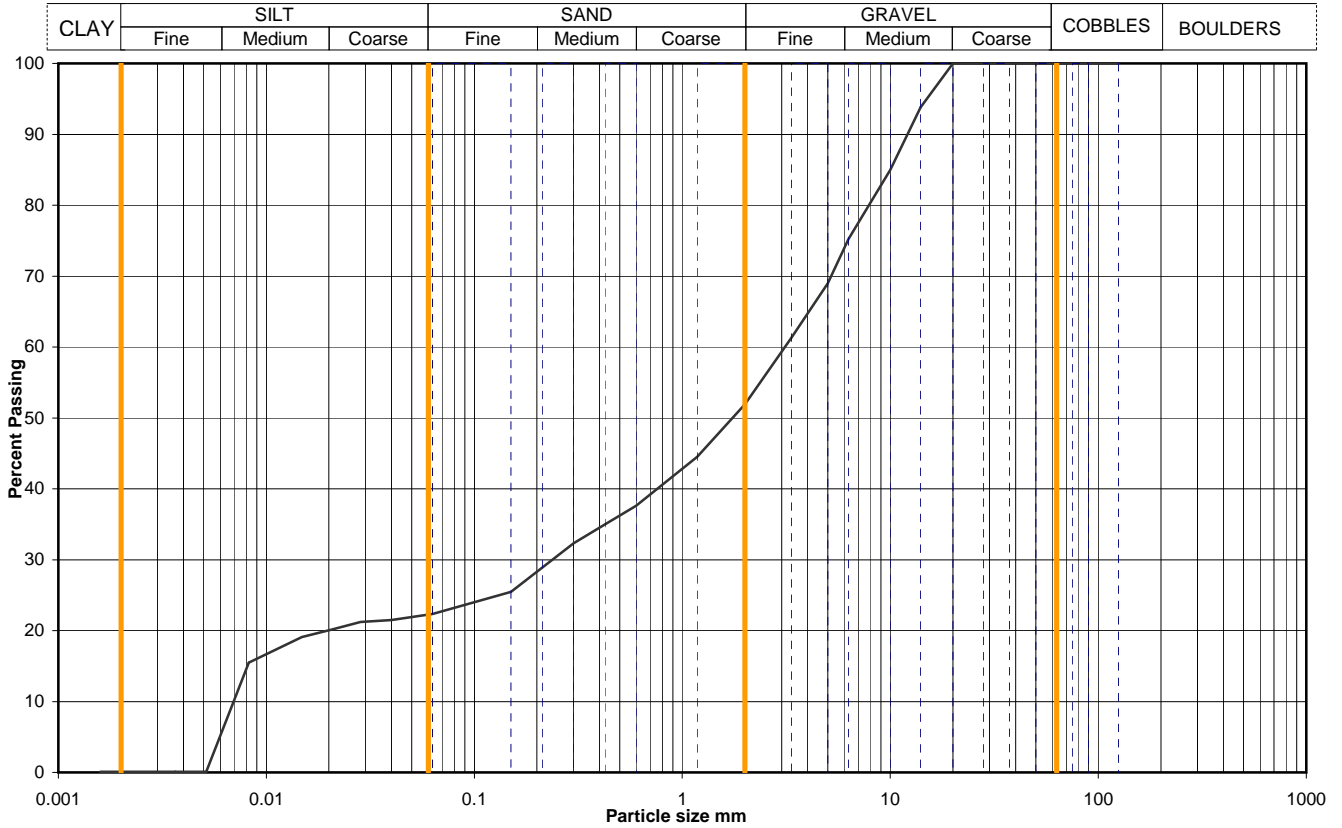


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	5	Type	B
			ID	MASTER3171		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0398	21
75	100	0.0283	21
63	100	0.0205	20
50	100	0.0148	19
37.5	100	0.0082	15
28	100	0.0051	0
20	100	0.0036	0
14	94	0.0016	0
10	85		
6.3	75		
5.0	69		
3.35	61		
2.00	52		
1.18	44		
0.600	38		
0.425	35		
0.300	32		
0.212	29		
0.150	25		
0.063	22		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	5.1

Soil description	Brown slightly sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		48	48
		30	30
		22	22
*<60mm values to aid description only		0	0

Uniformity Coefficient	$D_{60} / D_{10}$	447
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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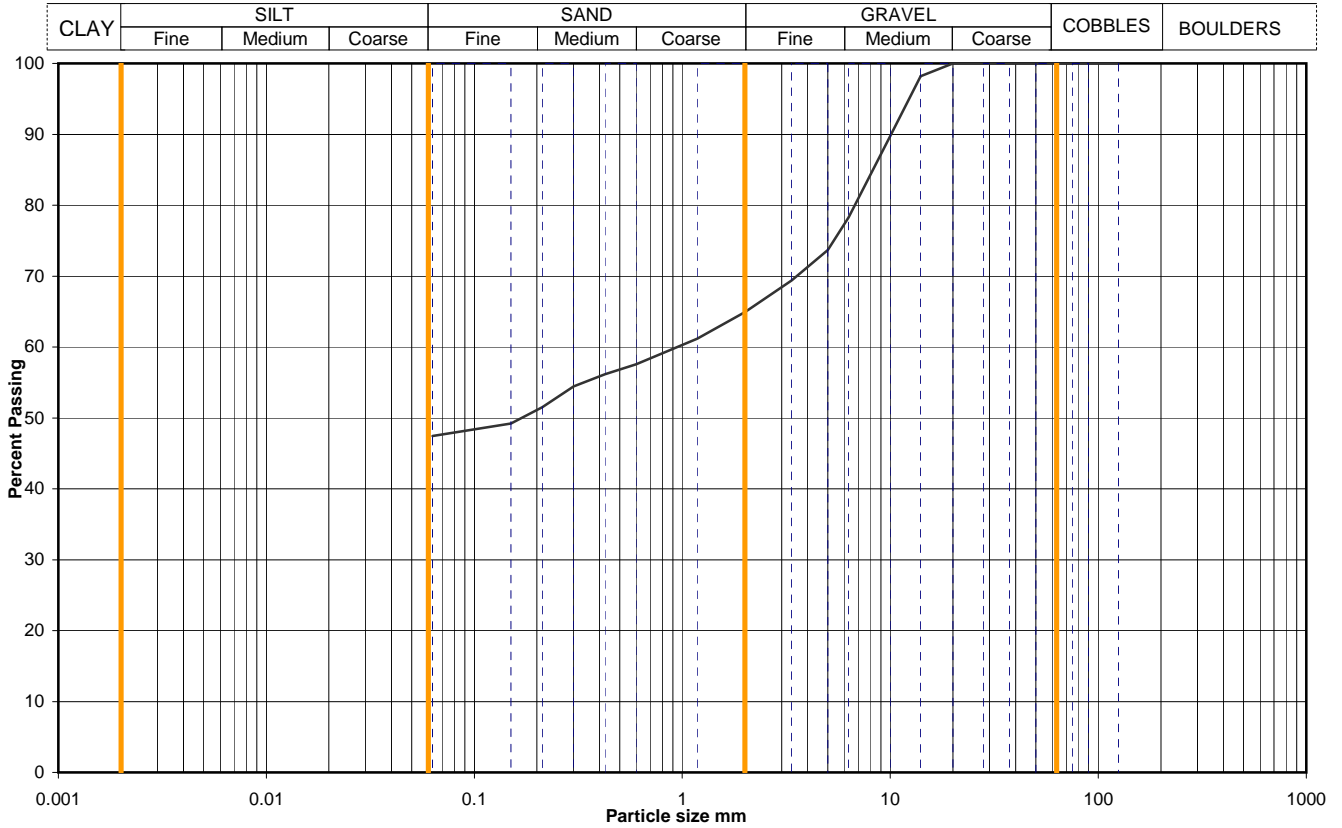
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Figure  
**PSD**



# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.00		
			Samp No	16	Type	B
			ID	MASTER3175		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	98		
10	90		
6.3	78		
5.0	74		
3.35	69		
2.00	65		
1.18	61		
0.600	58		
0.425	56		
0.300	54		
0.212	51		
0.150	49		
0.063	47		
		Dry mass of sample, kg	
		9.2	

Soil description	Brown slightly sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions <small>*&lt;60mm values to aid description only</small>	Cobbles / boulders	Whole	*<63mm
		0	0
	Gravel	35	35
	Sand	17	17
	Silt Clay	silt+clay =	
	48	48	

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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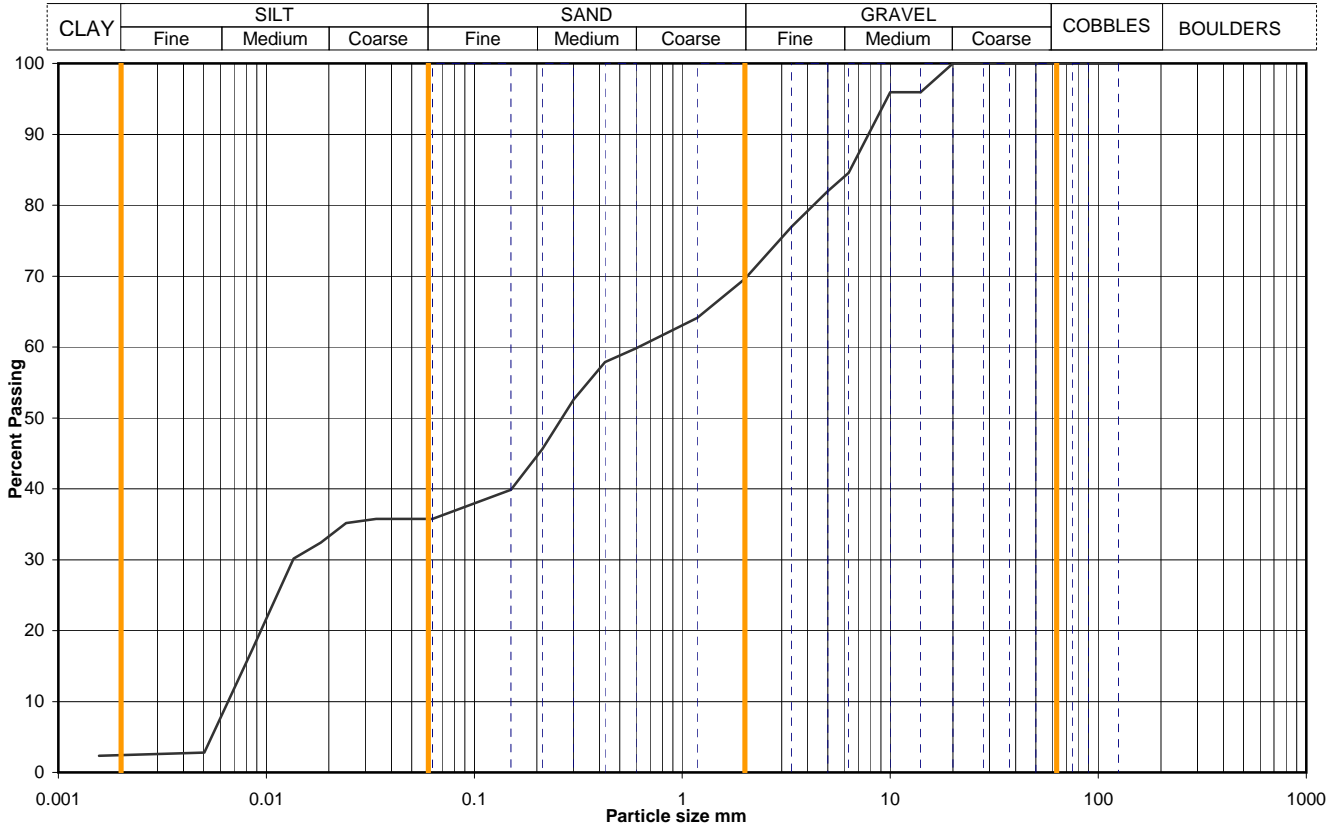


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH202
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	5.00
			Samp No	23
			Type	B
			ID	MASTER3177
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	36
90	100	0.0337	36
75	100	0.0242	35
63	100	0.0183	32
50	100	0.0135	30
37.5	100	0.0086	17
28	100	0.0050	3
20	100	0.0036	3
14	96	0.0016	2
10	96		
6.3	85		
5.0	82		
3.35	77		
2.00	70		
1.18	64		
0.600	60		
0.425	58		
0.300	53		
0.212	46		
0.150	40		
0.063	36		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	5.5

Soil description	Grey slightly sandy slightly gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		30	30
		34	34
		33	33
		3	3

Uniformity Coefficient	$D_{60} / D_{10}$	94
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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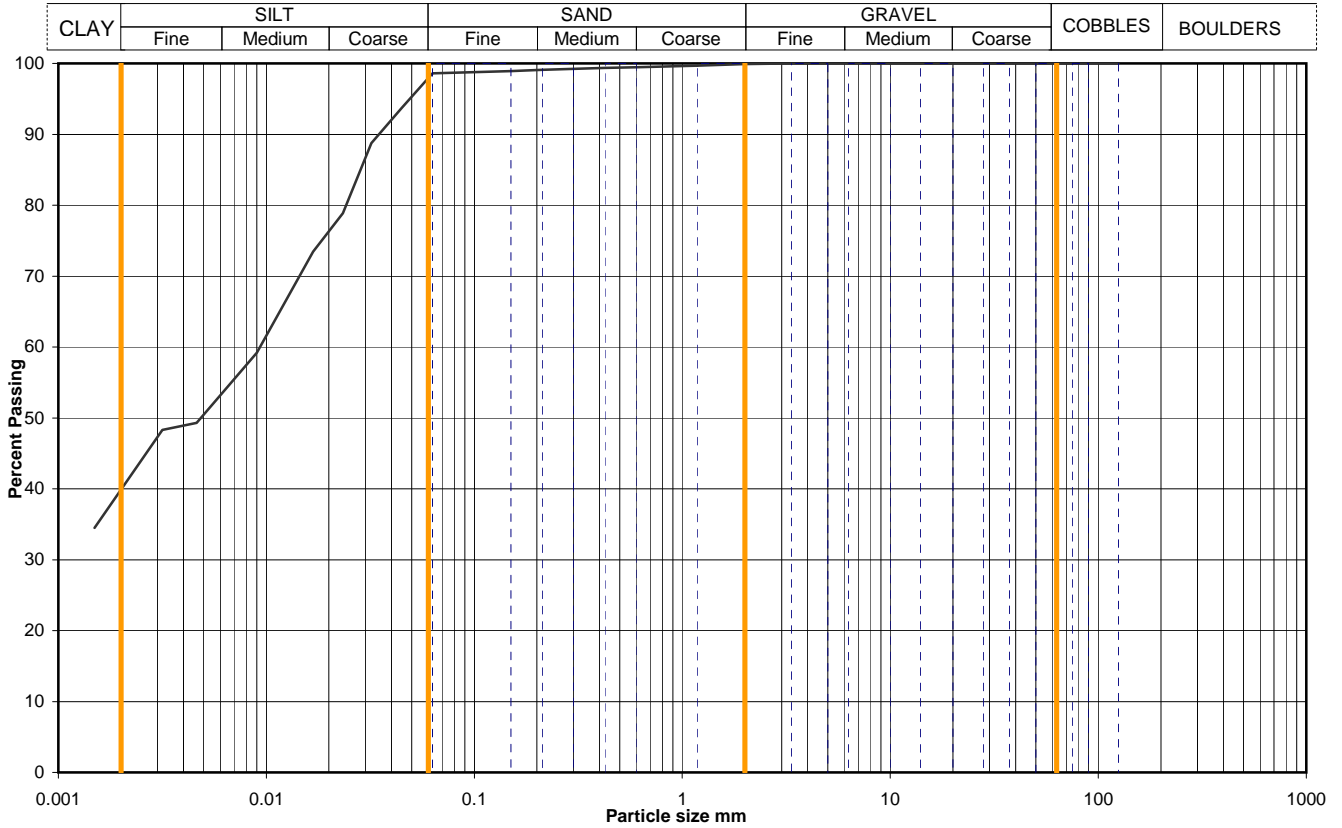


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH202
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	15.50
			Samp No	57
			Type	B
			ID	MASTER3222
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	99
90	100	0.0446	94
75	100	0.0320	89
63	100	0.0233	79
50	100	0.0168	73
37.5	100	0.0090	59
28	100	0.0046	49
20	100	0.0032	48
14	100	0.0015	35
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	99	Particle density, Mg/m <sup>3</sup>	
0.425	99	2.65 assumed	
0.300	99	Dry mass of sample, kg	
0.212	99		
0.150	99		
0.063	99	2.0	

Soil description	Grey CLAY with rare plant remains and shell fragments.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		0	0
		2	2
		58	58
*<60mm values to aid description only		40	40

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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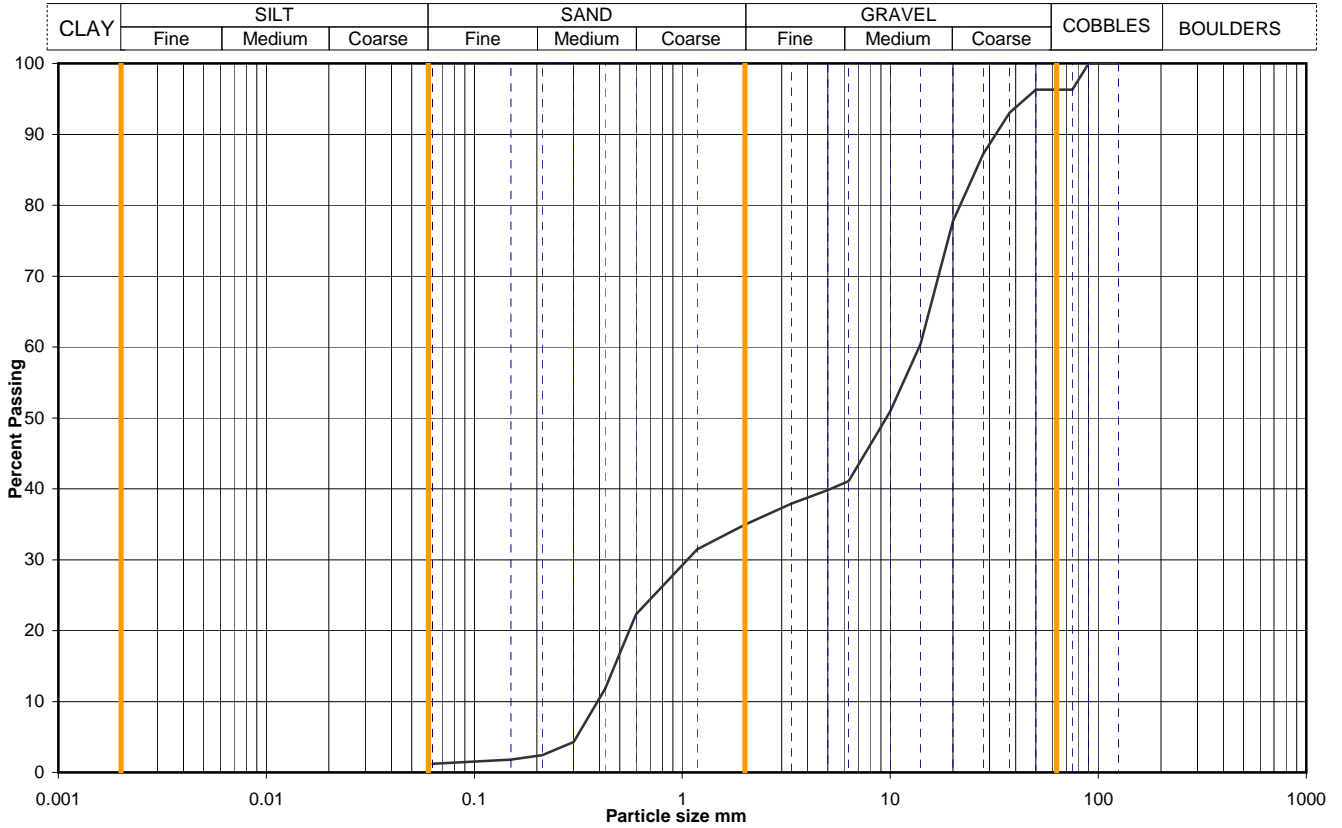


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH202
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	18.40
			Samp No	68
			Type	B
			ID	MASTER3225
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	96		
63	96		
50	96		
37.5	93		
28	87		
20	78		
14	60		
10	51		
6.3	41		
5.0	40		
3.35	38		
2.00	35		
1.18	31		
0.600	22		
0.425	12		
0.300	4		
0.212	2		
0.150	2		
0.063	1		
		Dry mass of sample, kg	
		24.9	

Soil description	Brown very sandy GRAVEL with one cobble.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		4	0
		61	64
		34	35
		silt+clay =	1
*<60mm values to aid description only			

Uniformity Coefficient	$D_{60} / D_{10}$	35
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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Figure  
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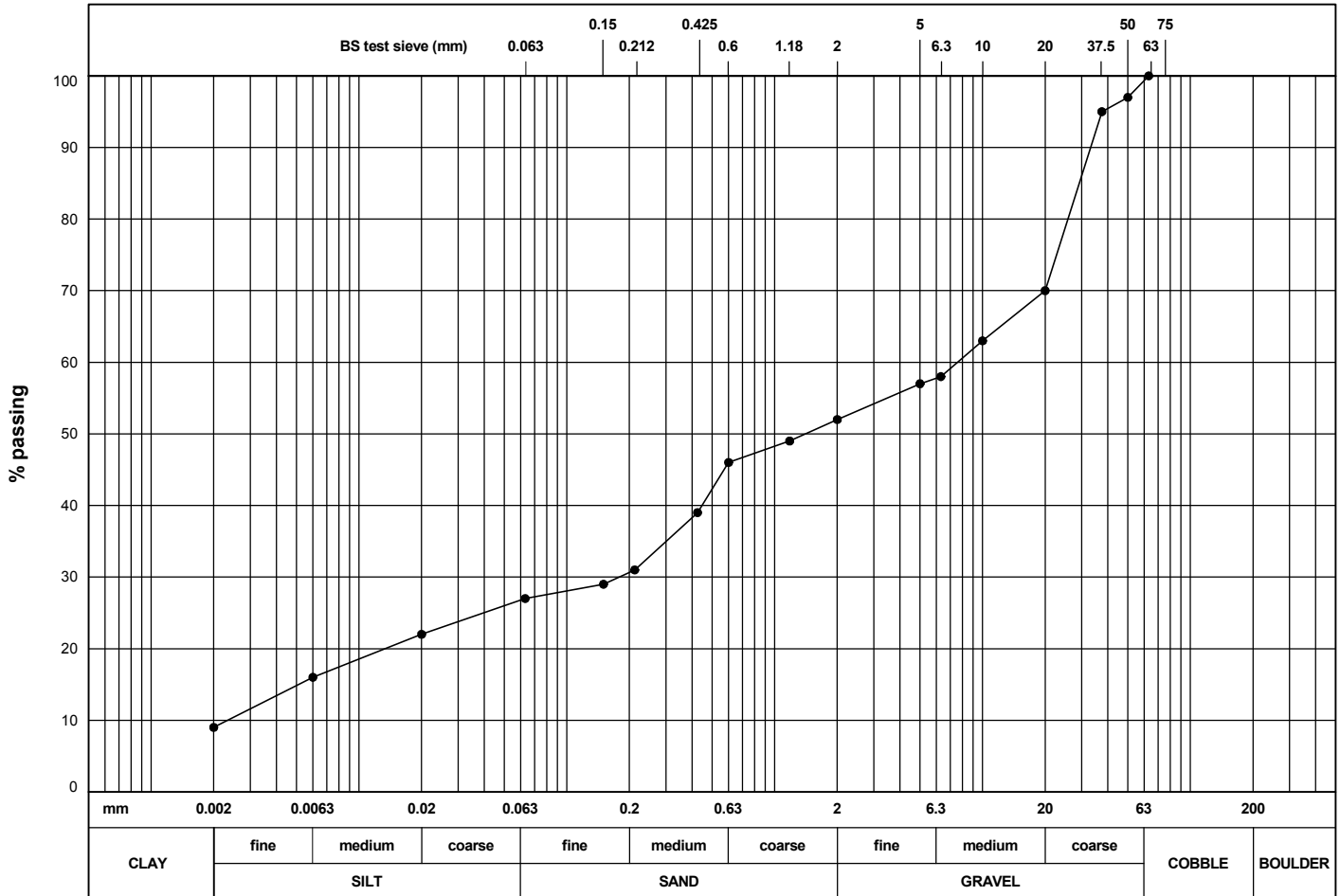
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

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 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown silty very sandy GRAVEL

BH/TP No. BH203  
 SAMPLE No./TYPE 9B  
 SAMPLE DEPTH (m) 2.40  
 SPECIMEN DEPTH (m) 2.40



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	9	150		5	57	20	22
SILT	18	75		2	52	6	16
SILT & CLAY	27	63	100	1.18	49	2	9
SAND	25	50	97	0.6	46		
GRAVEL	47	37.5	95	0.425	39		
COBBLE & BOULDER	1	20	70	0.212	31		
test method(s)	9.2 & 9.4	10	63	0.15	29		
test method:		6.3	58	0.063	27		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

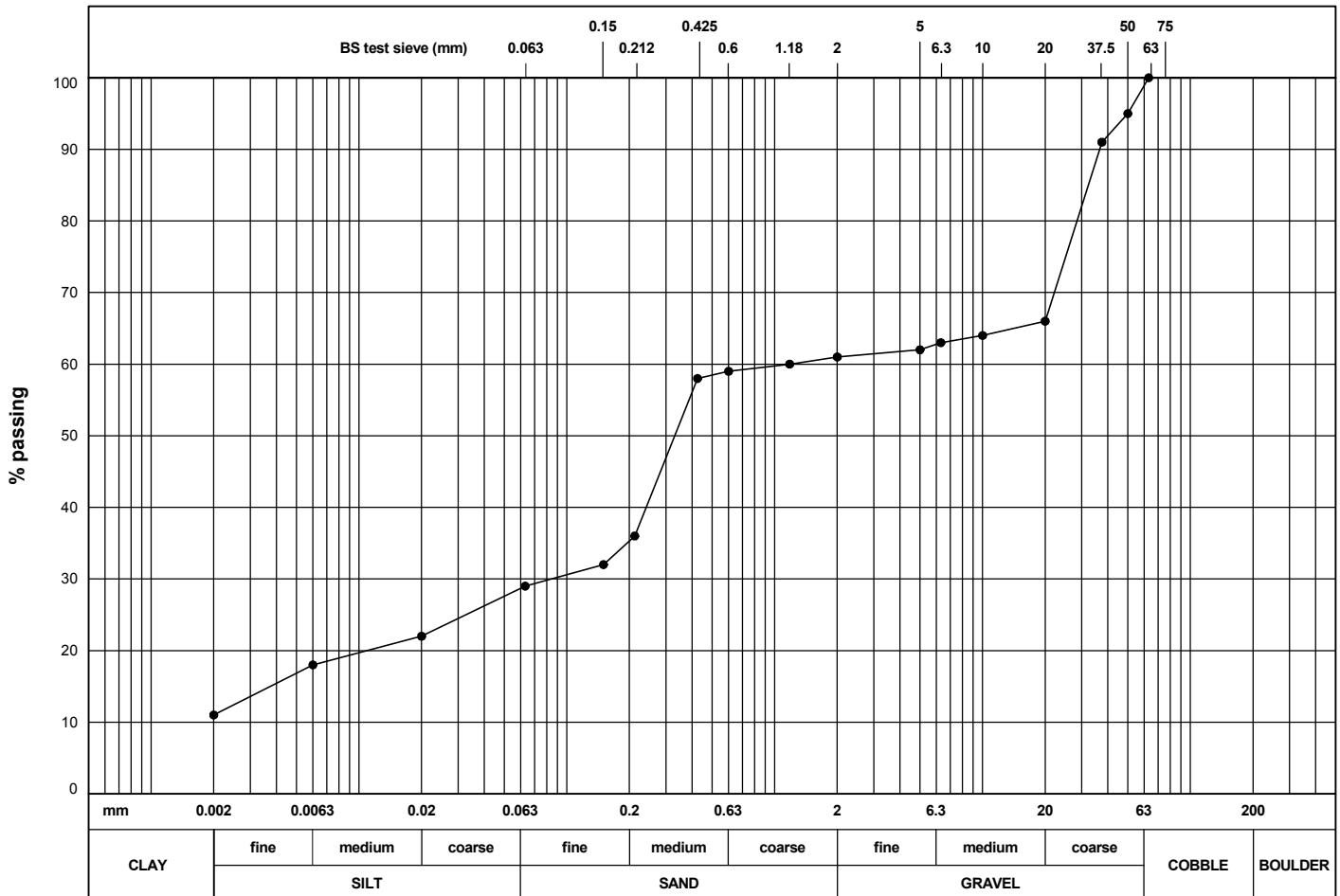
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Grey silty very sandy GRAVEL

BH/TP No. BH203  
 SAMPLE No./TYPE 20B  
 SAMPLE DEPTH (m) 6.00  
 SPECIMEN DEPTH (m) 6.00



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	11			5	62	20	22
SILT	18	150		2	61	6	18
SILT & CLAY	29	75		1.18	60	2	11
SAND	32		100				
GRAVEL	38	63					
COBBLE & BOULDER	1						
test method(s)	9.2 & 9.4	50	95	0.6	59		
		37.5	91	0.425	58		
test method:		20	66	0.212	36		
9.2 - wet sieving		10	64	0.15	32		
9.3 - dry sieving		6.3	63	0.063	29		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

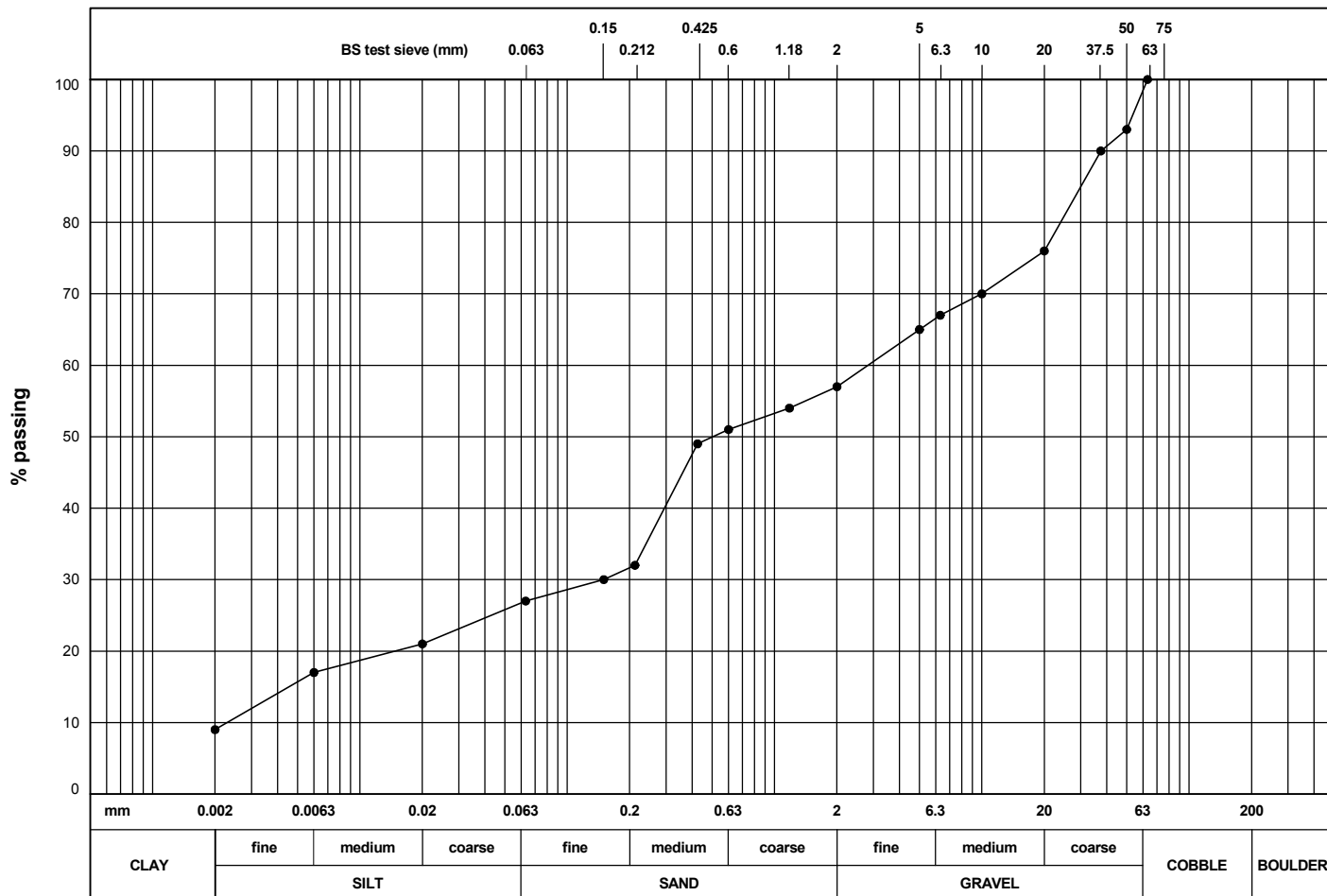
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

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 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Grey silty very sandy GRAVEL

BH/TP No. BH203  
 SAMPLE No./TYPE 28B  
 SAMPLE DEPTH (m) 9.00  
 SPECIMEN DEPTH (m) 9.00

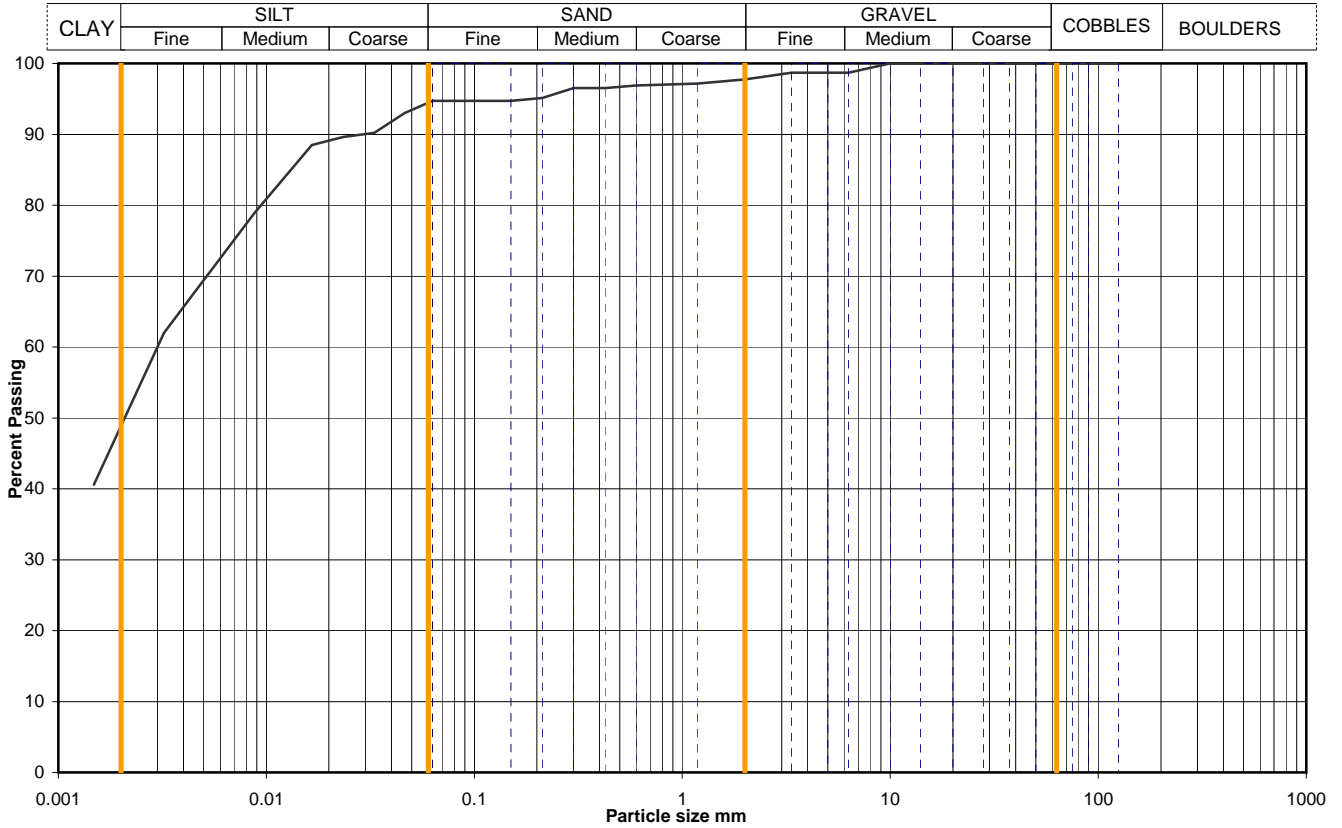


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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	9	150		5	65	20	21
SILT	18	75		2	57	6	17
SILT & CLAY	27	63	100	1.18	54	2	9
SAND	30	50	93	0.6	51		
GRAVEL	42	37.5	90	0.425	49		
COBBLE & BOULDER	1	20	76	0.212	32		
test method(s)	9.2# & 9.4	10	70	0.15	30		
test method:		6.3	67	0.063	27		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH204		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.30		
			Samp No	11	Type	B
			ID	MASTER3304		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	95
90	100	0.0463	93
75	100	0.0330	90
63	100	0.0234	90
50	100	0.0166	88
37.5	100	0.0088	79
28	100	0.0045	68
20	100	0.0032	62
14	100	0.0015	41
10	100		
6.3	99		
5.0	99		
3.35	99		
2.00	98		
1.18	97		
0.600	97	Particle density, Mg/m <sup>3</sup>	
0.425	97	2.65 assumed	
0.300	97	Dry mass of sample, kg	
0.212	95	7.0	
0.150	95		
0.063	95		

Soil description	Black slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		2	2
		3	3
		46	46
*<60mm values to aid description only		49	49

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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Figure  
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BH/TP No. BH204

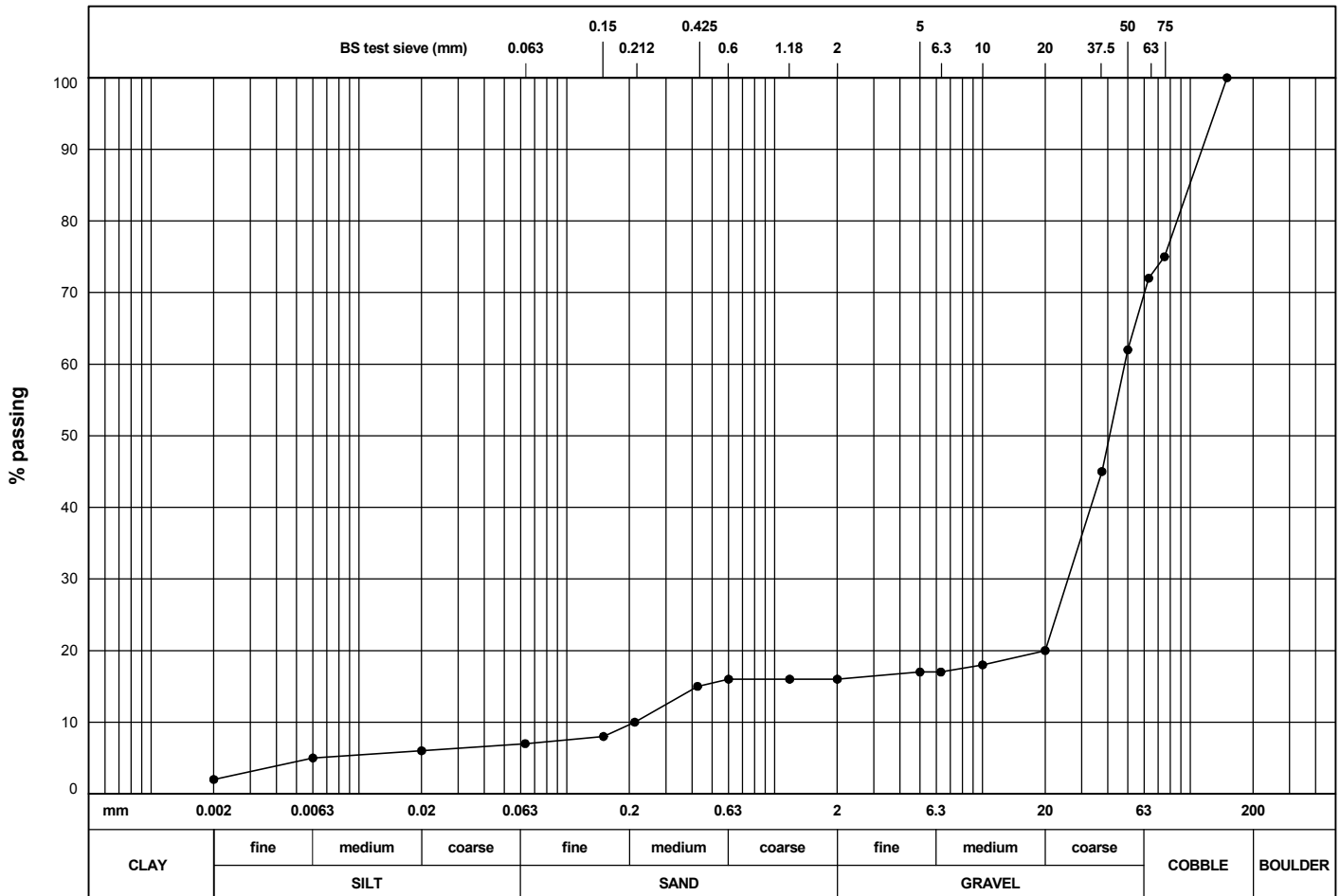
SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

SAMPLE No./TYPE 30B

SAMPLE DEPTH (m) 9.00

DESCRIPTION Greyish brown silty sandy GRAVEL with medium cobble content

SPECIMEN DEPTH (m) 9.00



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	2	150	100	5	17	20	6
SILT	5	75	75	2	16	6	5
SILT & CLAY	7	63	72	1.18	16	2	2
SAND	9	50	62	0.6	16		
GRAVEL	54	37.5	45	0.425	15		
COBBLE & BOULDER	30	20	20	0.212	10		
test method(s)	9.2# & 9.4	10	18	0.15	8		
test method:		6.3	17	0.063	7		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# PARTICLE SIZE DISTRIBUTION

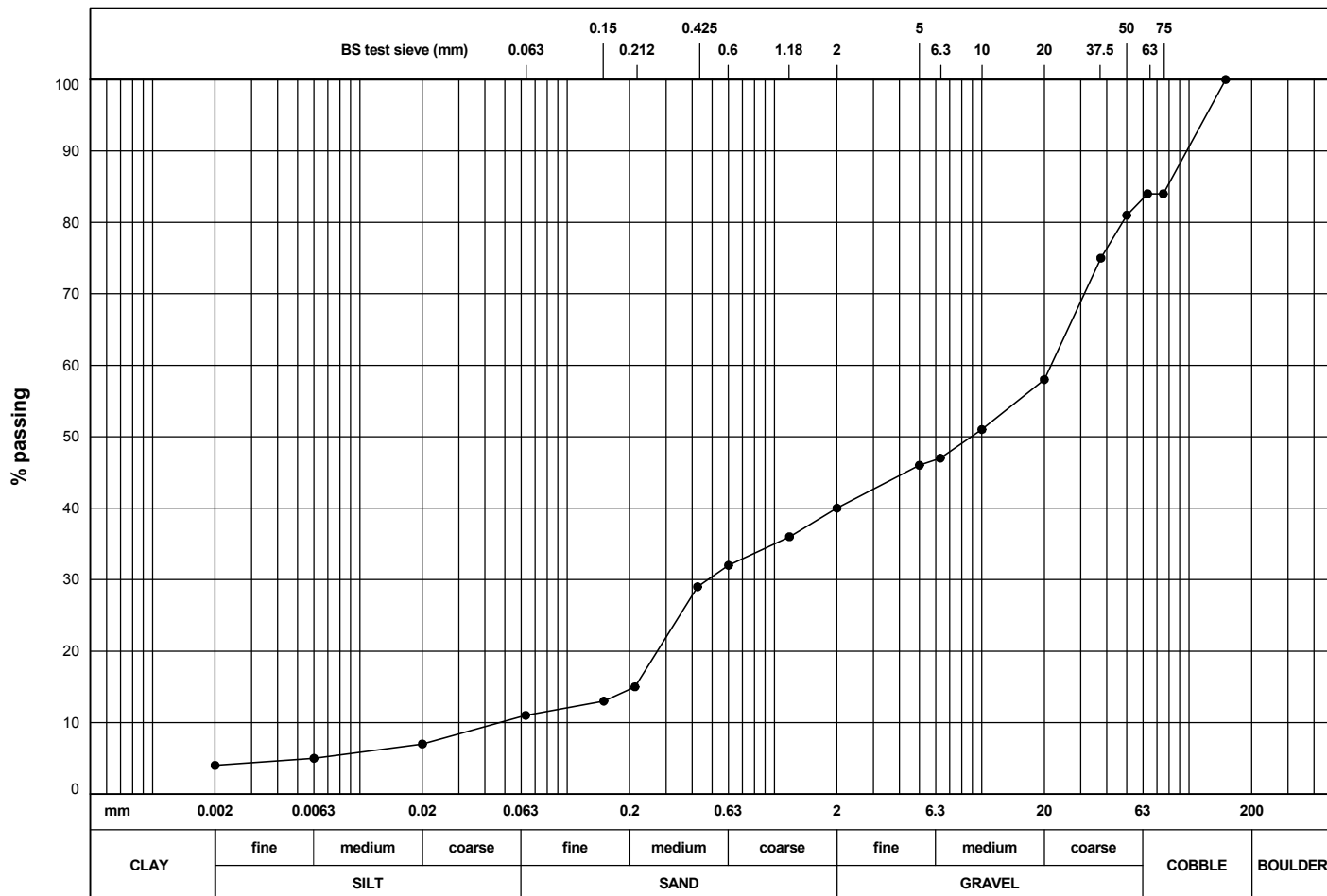


BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

BH/TP No. BH204  
 SAMPLE No./TYPE 39B  
 SAMPLE DEPTH (m) 11.80  
 SPECIMEN DEPTH (m) 11.80

DESCRIPTION Light brown silty very sandy GRAVEL with medium cobble content



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	4						
SILT	7	150	100	5	46	20	7
SILT & CLAY	11						
SAND	29	75	84	2	40	6	5
GRAVEL	43						
COBBLE & BOULDER	17	63	84	1.18	36	2	4
test method(s)	9.2# & 9.4	50	81	0.6	32		
		37.5	75	0.425	29		
test method:							
9.2 - wet sieving		20	58	0.212	15		
9.3 - dry sieving		10	51	0.15	13		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer		6.3	47	0.063	11		
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

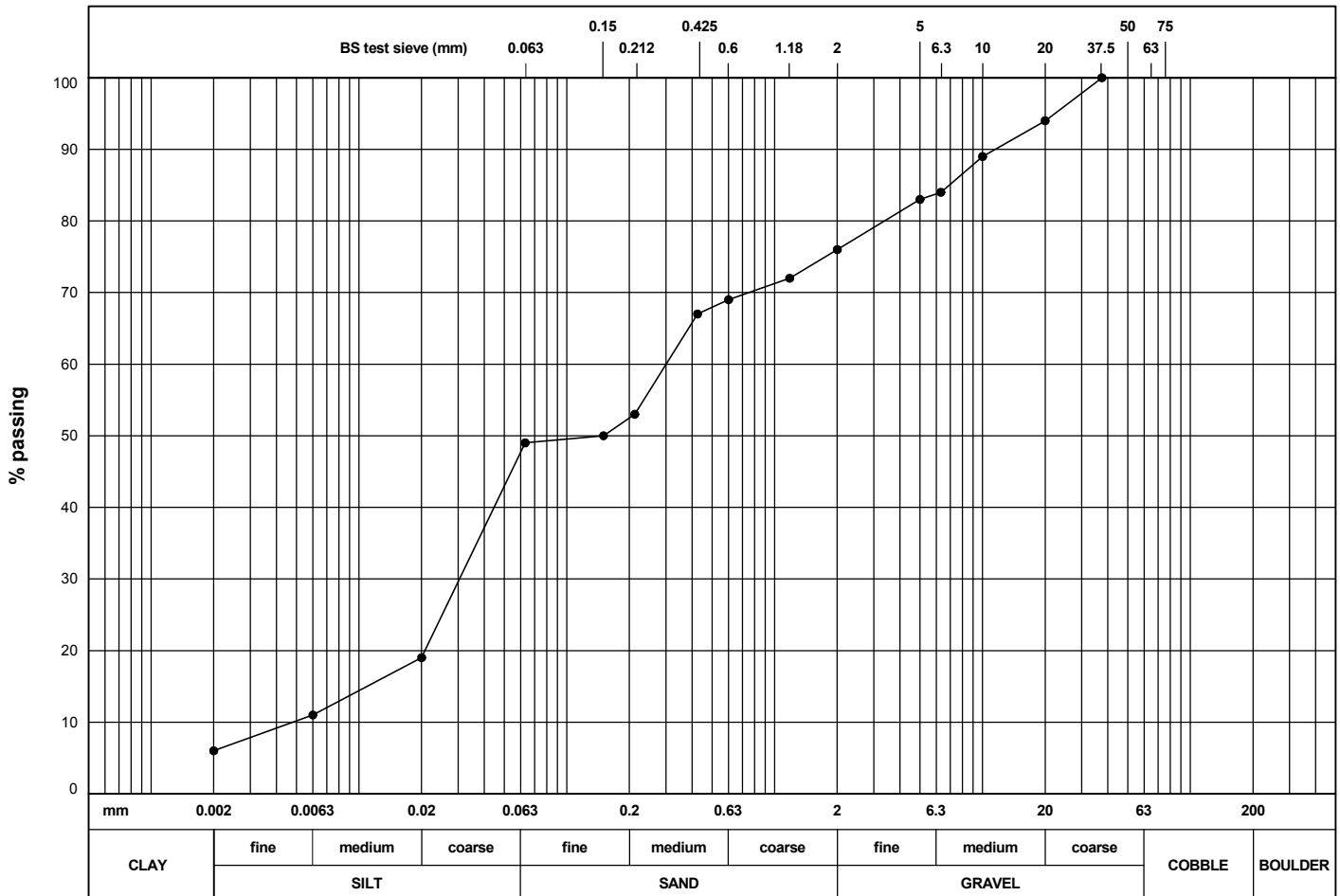
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION White slightly sandy slightly gravelly SILT. Gravel is CHALK

BH/TP No. BH501  
 SAMPLE No./TYPE 5B  
 SAMPLE DEPTH (m) 1.00  
 SPECIMEN DEPTH (m) 1.00



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	6	150		5	83	20	19
SILT	43	75		2	76	6	11
SILT & CLAY	49	63		1.18	72	2	6
SAND	27	50		0.6	69		
GRAVEL	24	37.5	100	0.425	67		
COBBLE & BOULDER	0	20	94	0.212	53		
test method(s)	9.2&9.4	10	89	0.15	50		
test method:		6.3	84	0.063	49		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377				CONTRACT		CHECKED
					30766		SR

# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

BH/TP No.

BH501

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

SAMPLE No./TYPE

12X

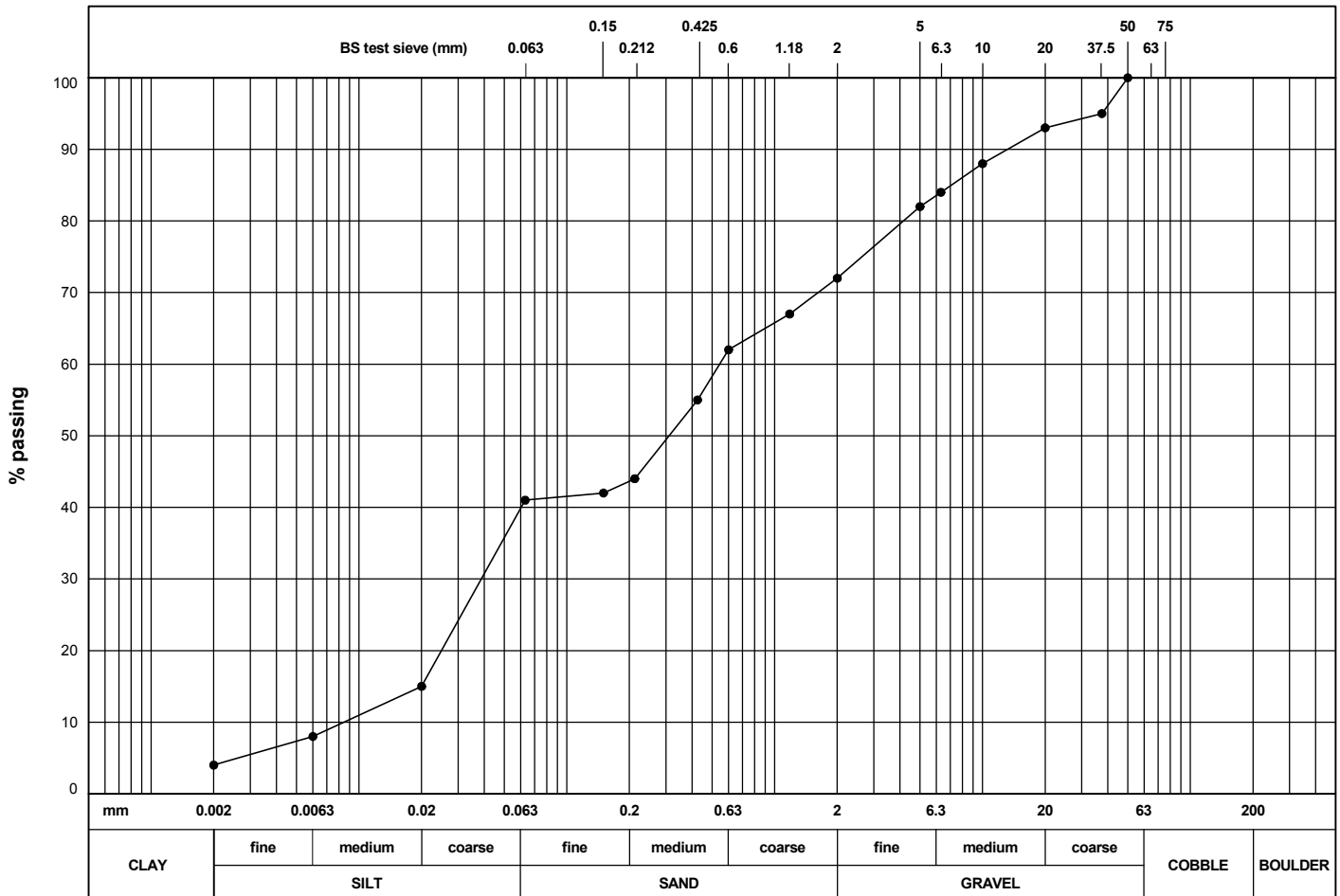
SAMPLE DEPTH (m)

2.20

DESCRIPTION White slightly sandy slightly gravelly SILT. Gravel is CHALK

SPECIMEN DEPTH (m)

2.30



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	4	150		5	82	20	15
SILT	37	75		2	72	6	8
SILT & CLAY	41	63		1.18	67	2	4
SAND	31	50	100	0.6	62		
GRAVEL	28	37.5	95	0.425	55		
COBBLE & BOULDER	0	20	93	0.212	44		
		10	88	0.15	42		
		6.3	84	0.063	41		
test method(s)	9.2&9.4						
test method:							
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

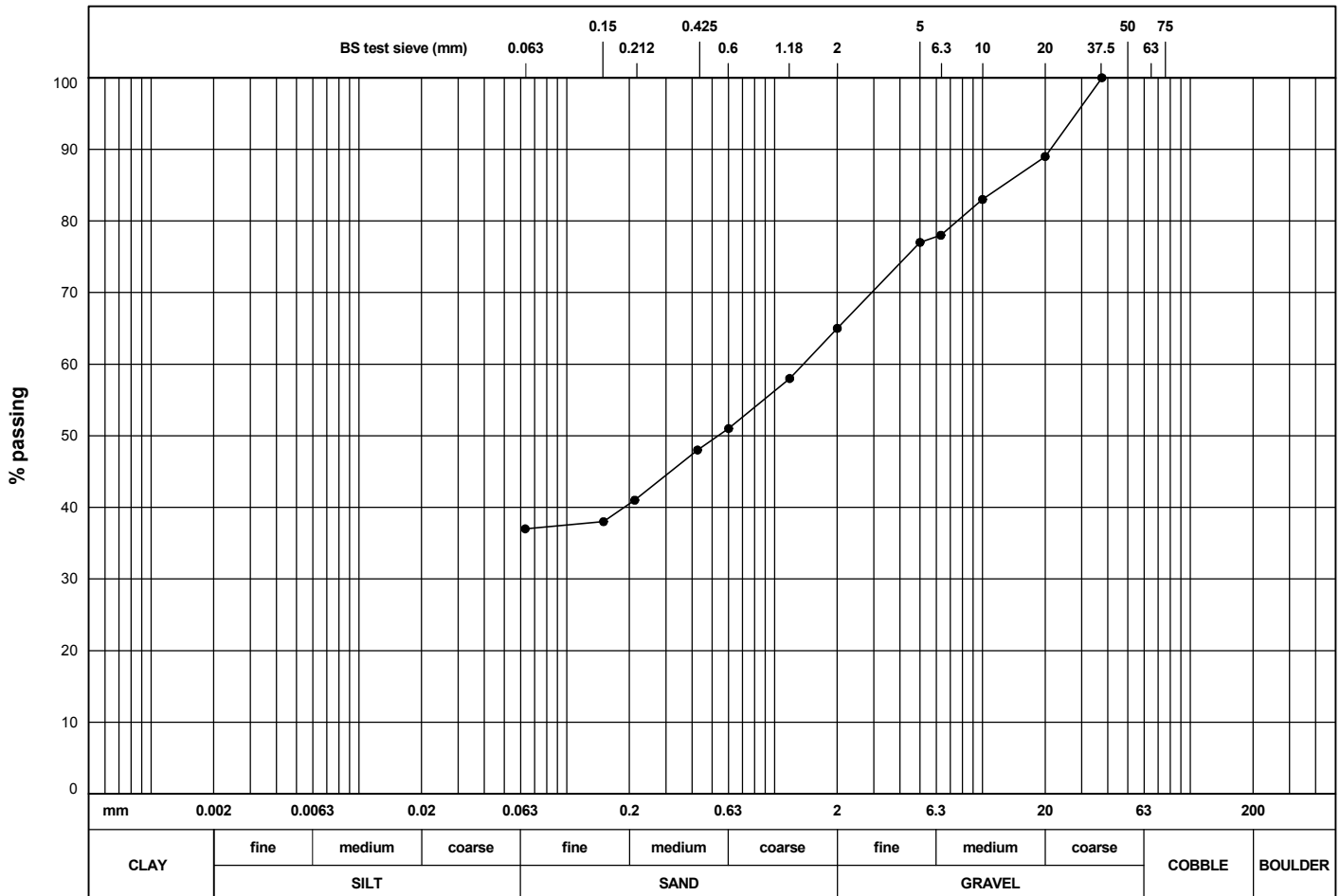
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION White slightly sandy slightly gravelly SILT. Gravel is CHALK

BH/TP No. BH501  
 SAMPLE No./TYPE 24X  
 SAMPLE DEPTH (m) 4.20  
 SPECIMEN DEPTH (m) 4.40



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:42

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	77	20	
SILT		75		2	65	6	
SILT & CLAY	37	63		1.18	58	2	
SAND	28	50		0.6	51		
GRAVEL	35	37.5	100	0.425	48		
COBBLE & BOULDER	0	20	89	0.212	41		
test method(s)	9.2	10	83	0.15	38		
test method:		6.3	78	0.063	37		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks: # denotes sample tested is smaller than that which is recommended in accordance with BS1377						CONTRACT <b>30766</b>	CHECKED <b>SR</b>

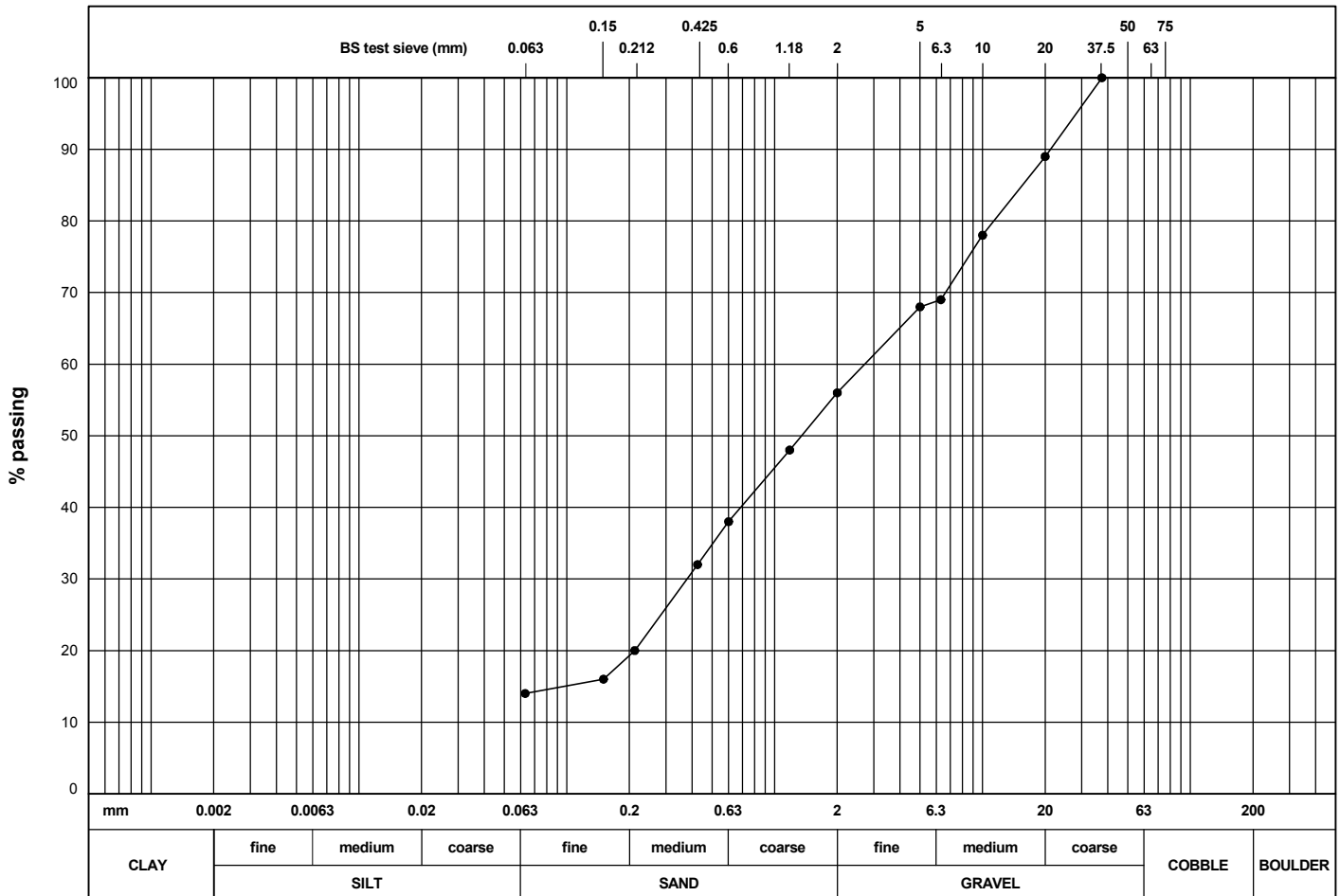
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION White silty sandy GRAVEL. Gravel is CHALK

BH/TP No. BH501  
 SAMPLE No./TYPE 36X  
 SAMPLE DEPTH (m) 6.20  
 SPECIMEN DEPTH (m) 6.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:43

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	68	20	
SILT		75		2	56	6	
SILT & CLAY	14						
SAND	42						
GRAVEL	44						
COBBLE & BOULDER	0						
test method(s)	9.2	50		0.6	38		
		37.5	100	0.425	32		
test method:							
9.2 - wet sieving		20	89	0.212	20		
9.3 - dry sieving		10	78	0.15	16		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer		6.3	69	0.063	14		
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

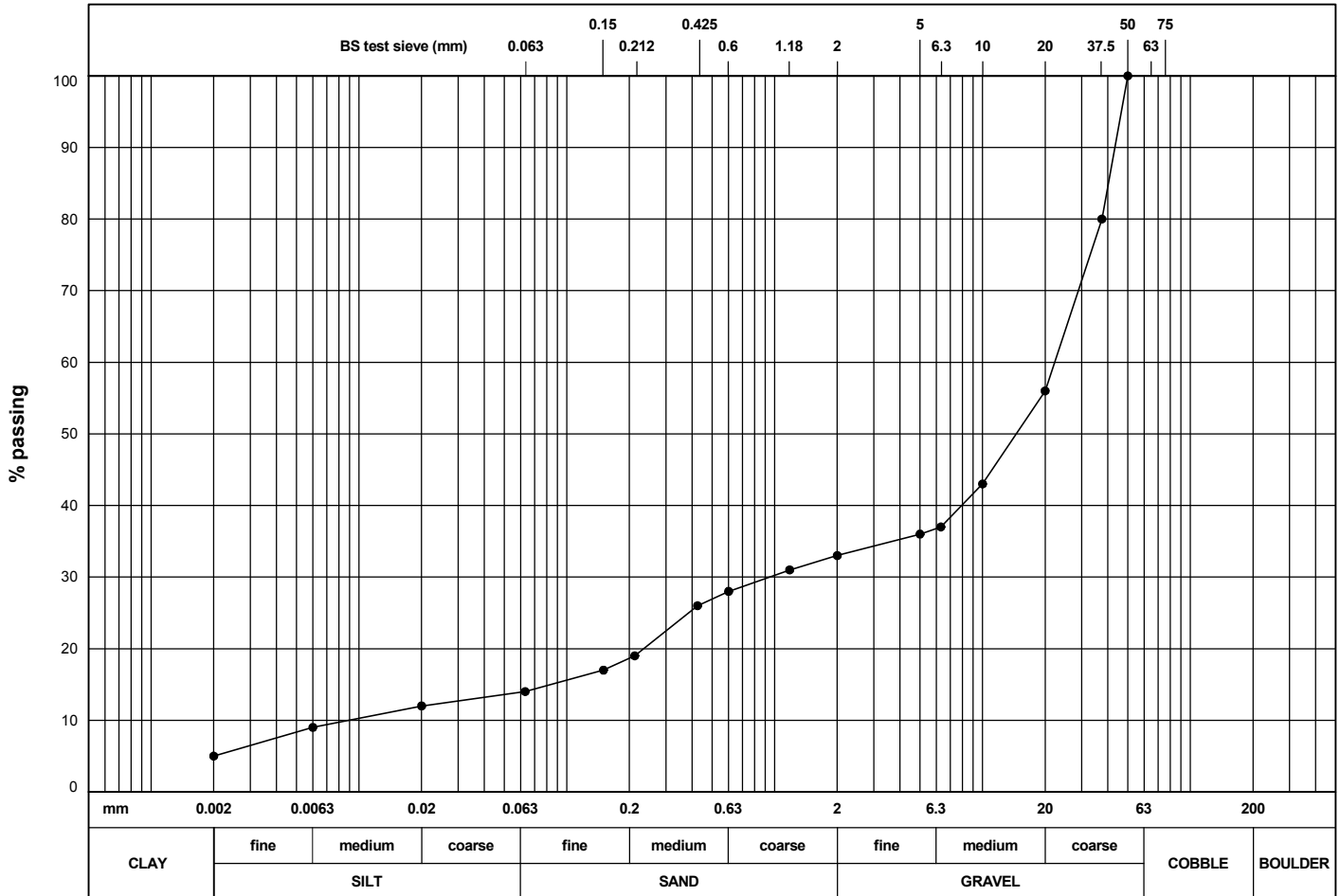
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown mottled white silty sandy GRAVEL

BH/TP No. BH501  
 SAMPLE No./TYPE 44X  
 SAMPLE DEPTH (m) 8.20  
 SPECIMEN DEPTH (m) 8.25



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:44

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	5	150		5	36	20	12
SILT	9	75		2	33	6	9
SILT & CLAY	14	63		1.18	31	2	5
SAND	19	50	100	0.6	28		
GRAVEL	67	37.5	80	0.425	26		
COBBLE & BOULDER	0	20	56	0.212	19		
		10	43	0.15	17		
		6.3	37	0.063	14		
test method(s)	9.2&9.4#						
test method:							
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

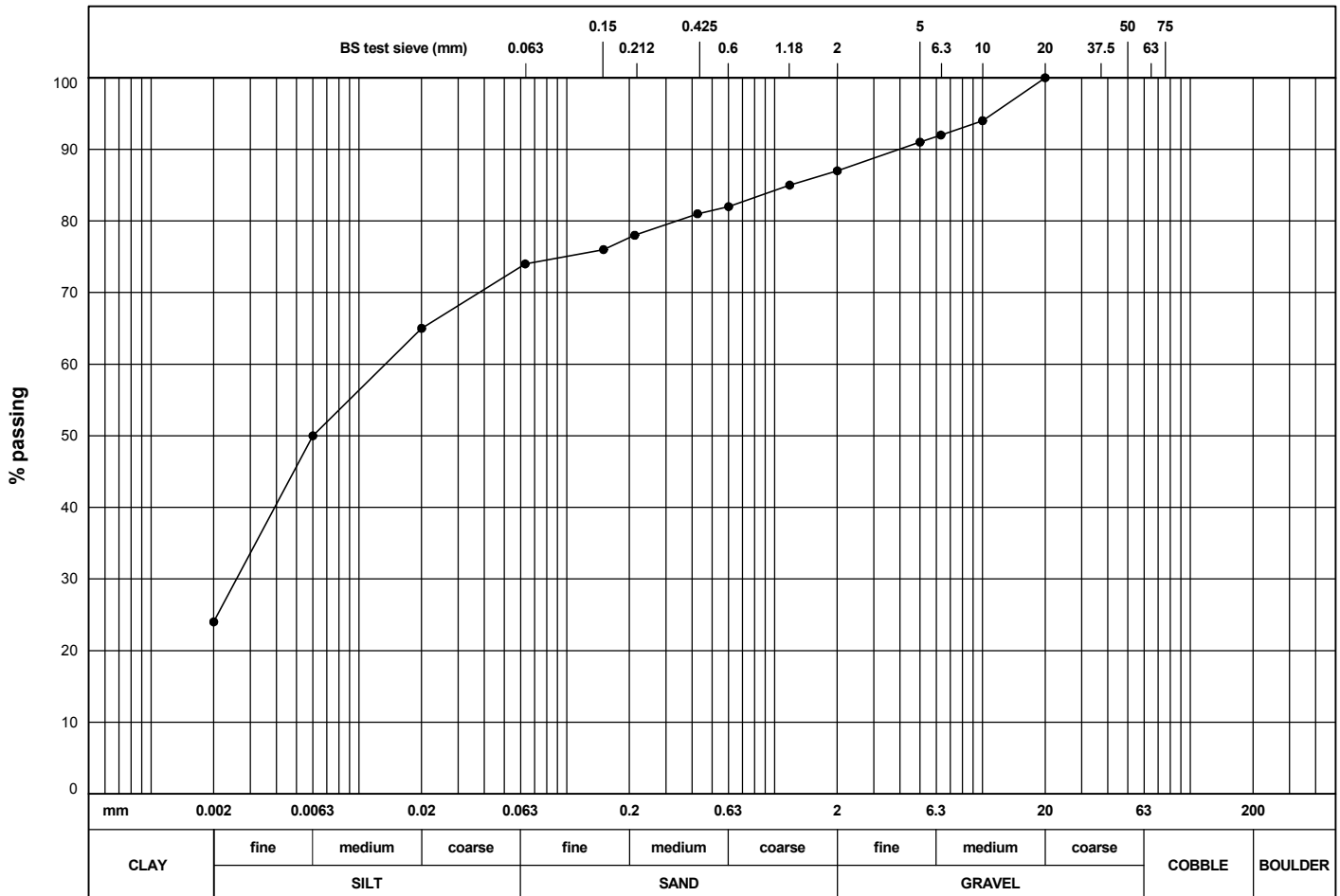
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Off white slightly sandy slightly gravelly CHALK

BH/TP No. BH502  
 SAMPLE No./TYPE 5B  
 SAMPLE DEPTH (m) 1.00  
 SPECIMEN DEPTH (m) 1.00



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedgeley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:45

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	24	150		5	91	20	65
SILT	50	75		2	87	6	50
SILT & CLAY	74	63		1.18	85	2	24
SAND	13	50		0.6	82		
GRAVEL	13	37.5		0.425	81		
COBBLE & BOULDER	0	20	100	0.212	78		
test method(s)	9.2 & 9.4	10	94	0.15	76		
test method:		6.3	92	0.063	74		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>



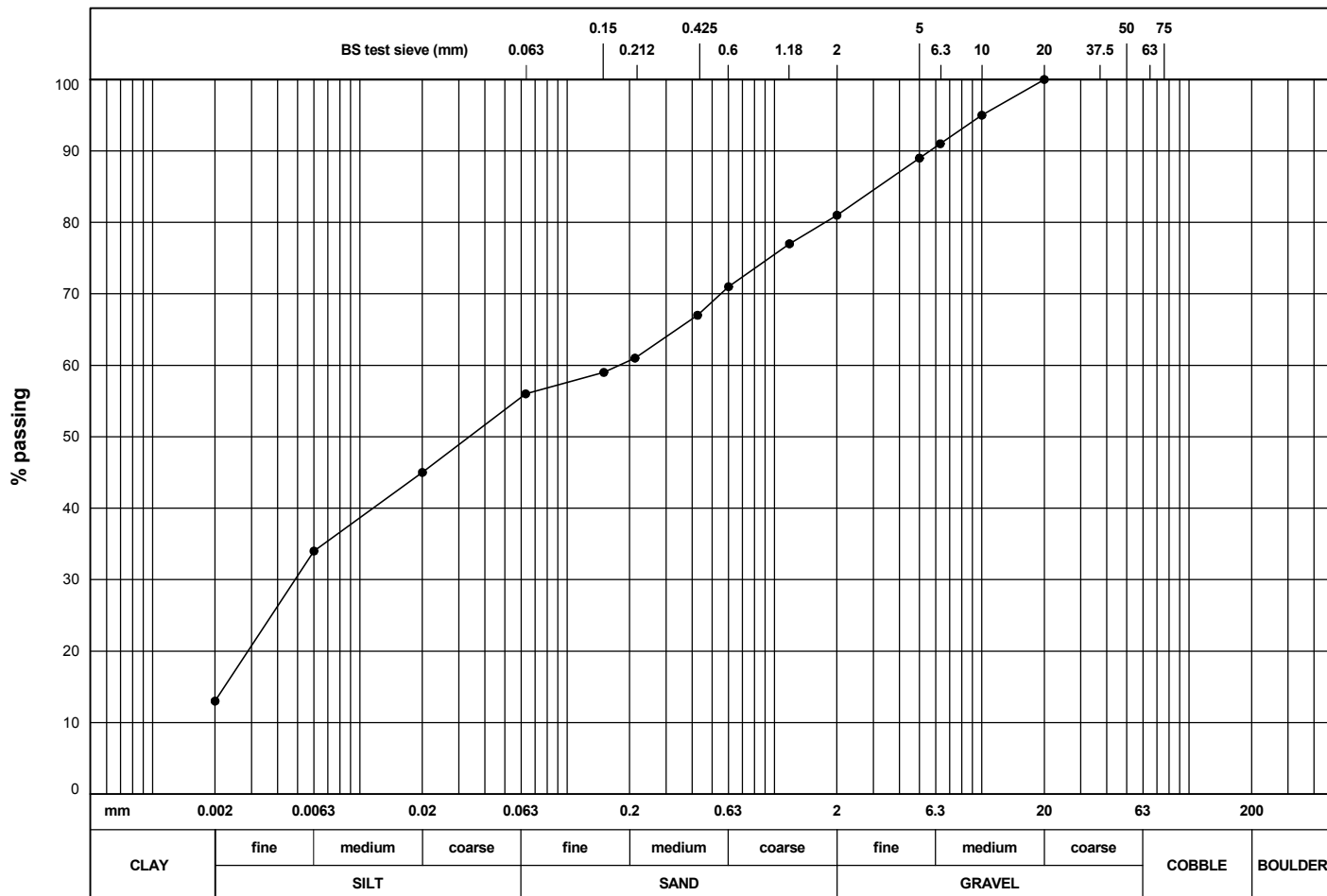
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Off white slightly sandy slightly gravelly CHALK

BH/TP No. BH502  
 SAMPLE No./TYPE 11X  
 SAMPLE DEPTH (m) 1.80  
 SPECIMEN DEPTH (m) 2.00



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:46

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	13	150		5	89	20	45
SILT	43	75		2	81	6	34
SILT & CLAY	56	63		1.18	77	2	13
SAND	25	50		0.6	71		
GRAVEL	19	37.5		0.425	67		
COBBLE & BOULDER	0	20	100	0.212	61		
test method(s)	9.2 & 9.4	10	95	0.15	59		
test method:		6.3	91	0.063	56		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

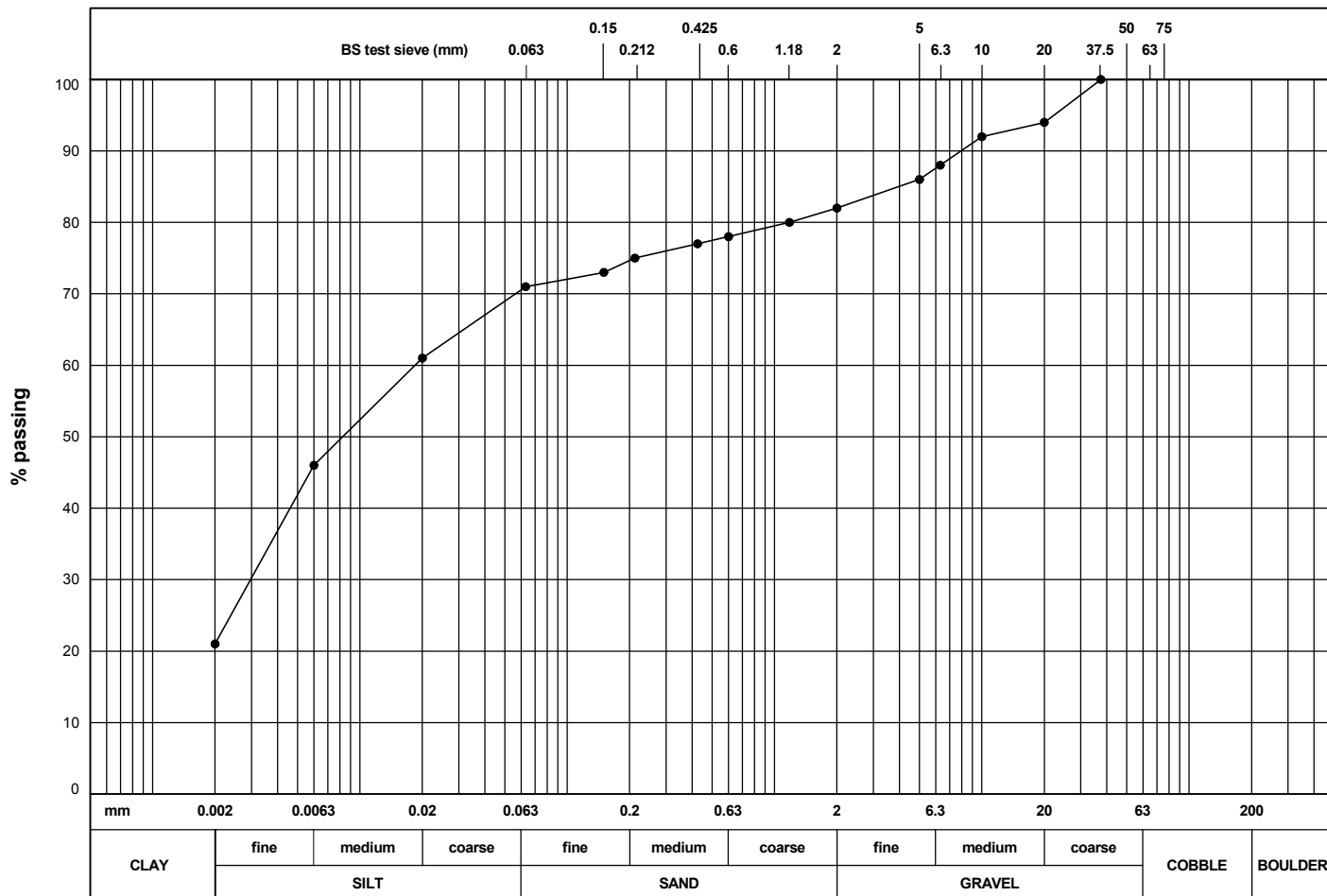
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Off white slightly sandy slightly gravelly CHALK

BH/TP No. BH502  
 SAMPLE No./TYPE 27X  
 SAMPLE DEPTH (m) 5.20  
 SPECIMEN DEPTH (m) 5.60



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:47

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	21	150		5	86	20	61
SILT	50	75		2	82	6	46
SILT & CLAY	71	63		1.18	80	2	21
SAND	11	50		0.6	78		
GRAVEL	18	37.5	100	0.425	77		
COBBLE & BOULDER	0	20	94	0.212	75		
test method(s)	9.2 & 9.4	10	92	0.15	73		
test method:		6.3	88	0.063	71		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

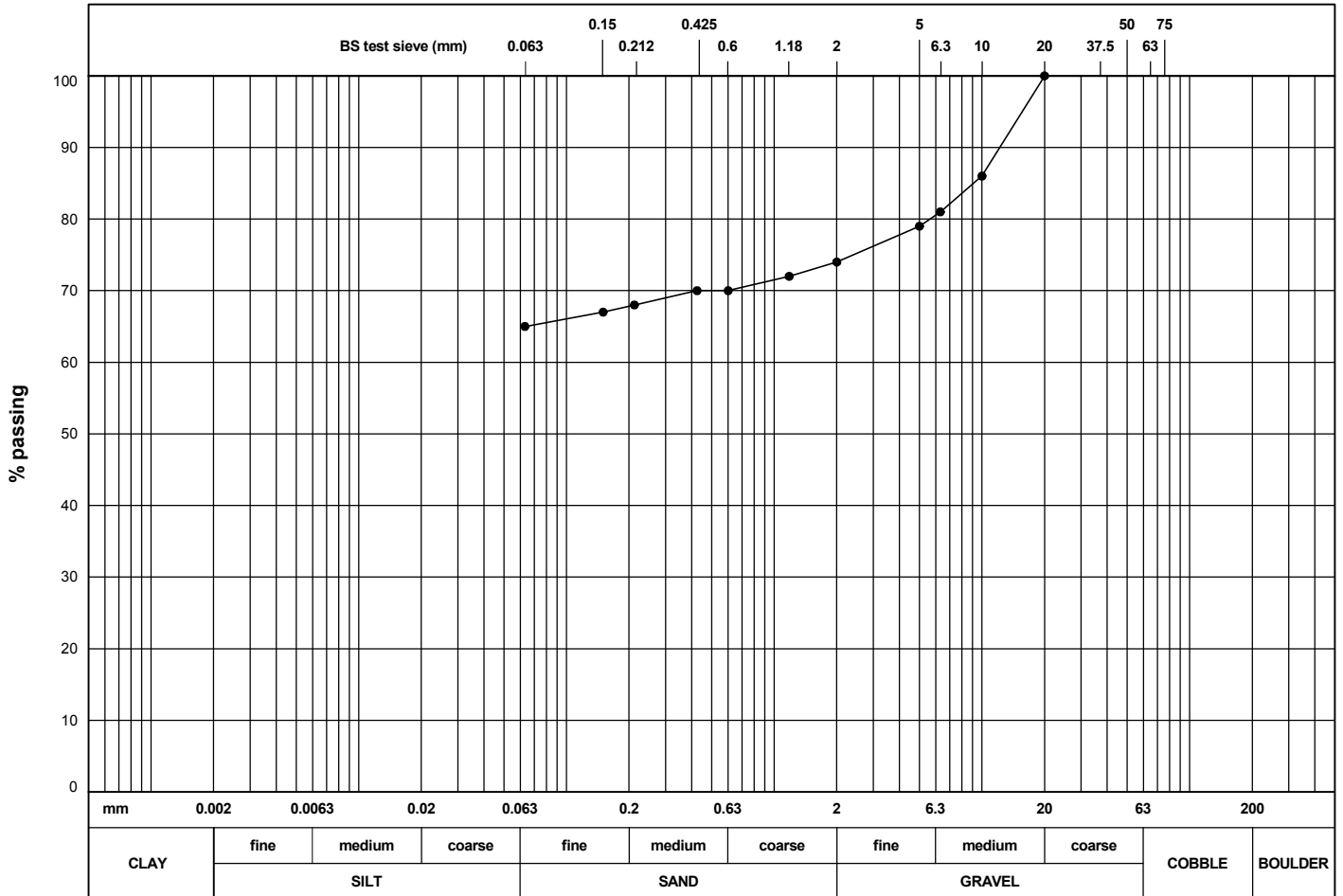
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Off white slightly sandy slightly gravelly CHALK

BH/TP No. BH502  
 SAMPLE No./TYPE 37X  
 SAMPLE DEPTH (m) 7.20  
 SPECIMEN DEPTH (m) 7.40



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:48

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	79	20	
SILT		75		2	74	6	
SILT & CLAY	65	63		1.18	72	2	
SAND	9	50		0.6	70		
GRAVEL	26	37.5		0.425	70		
COBBLE & BOULDER	0	20	100	0.212	68		
test method(s)	9.2	10	86	0.15	67		
test method:		6.3	81	0.063	65		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks: # denotes sample tested is smaller than that which is recommended in accordance with BS1377						CONTRACT <b>30766</b>	CHECKED <b>SR</b>

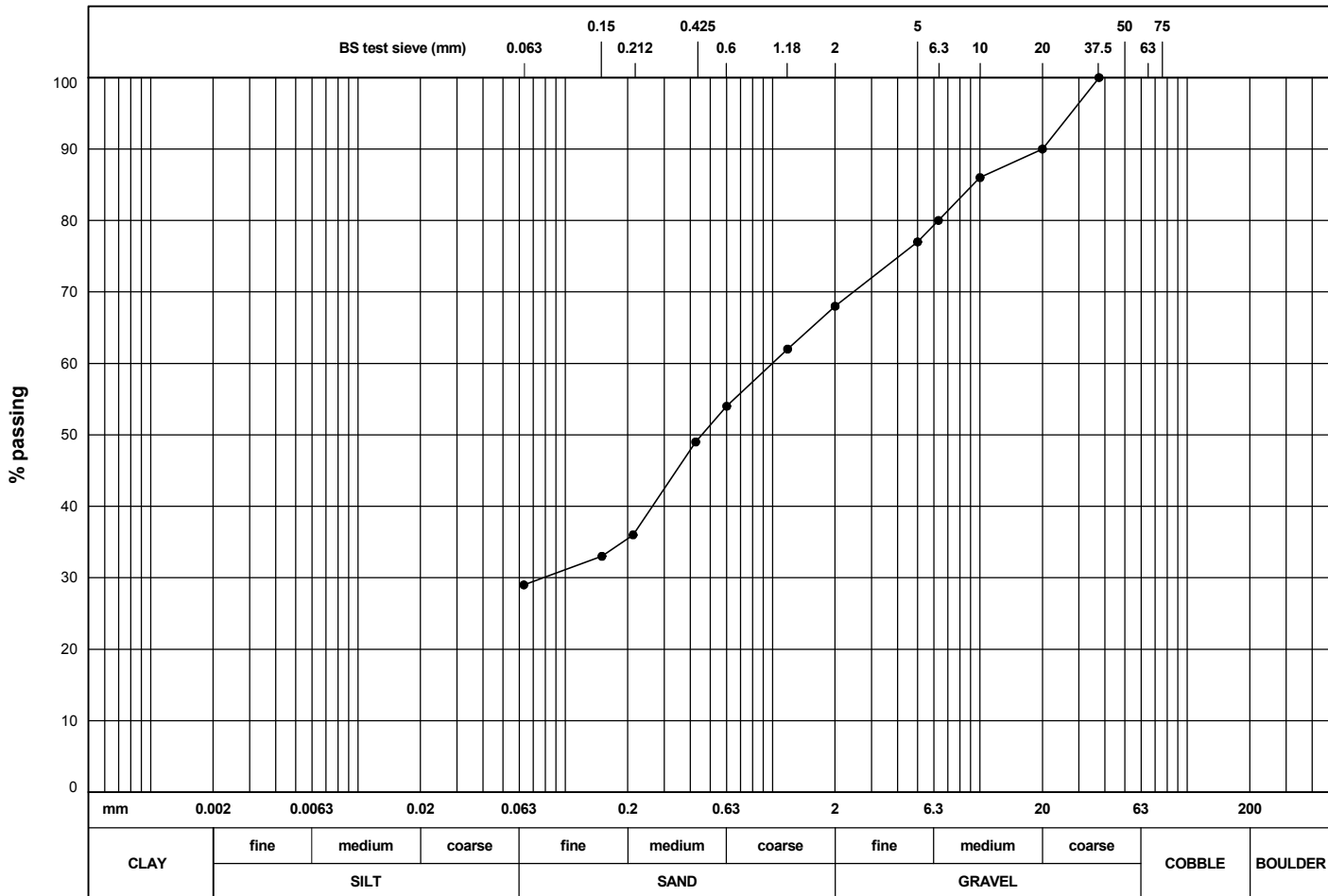
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown very clayey very gravelly SAND

BH/TP No. BH502  
 SAMPLE No./TYPE 41X  
 SAMPLE DEPTH (m) 8.20  
 SPECIMEN DEPTH (m) 8.70



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:49

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	77	20	
SILT		75		2	68	6	
SILT & CLAY	29	63		1.18	62	2	
SAND	39	50		0.6	54		
GRAVEL	32	37.5	100	0.425	49		
COBBLE & BOULDER	0	20	90	0.212	36		
test method(s)	9.2#	10	86	0.15	33		
test method:		6.3	80	0.063	29		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

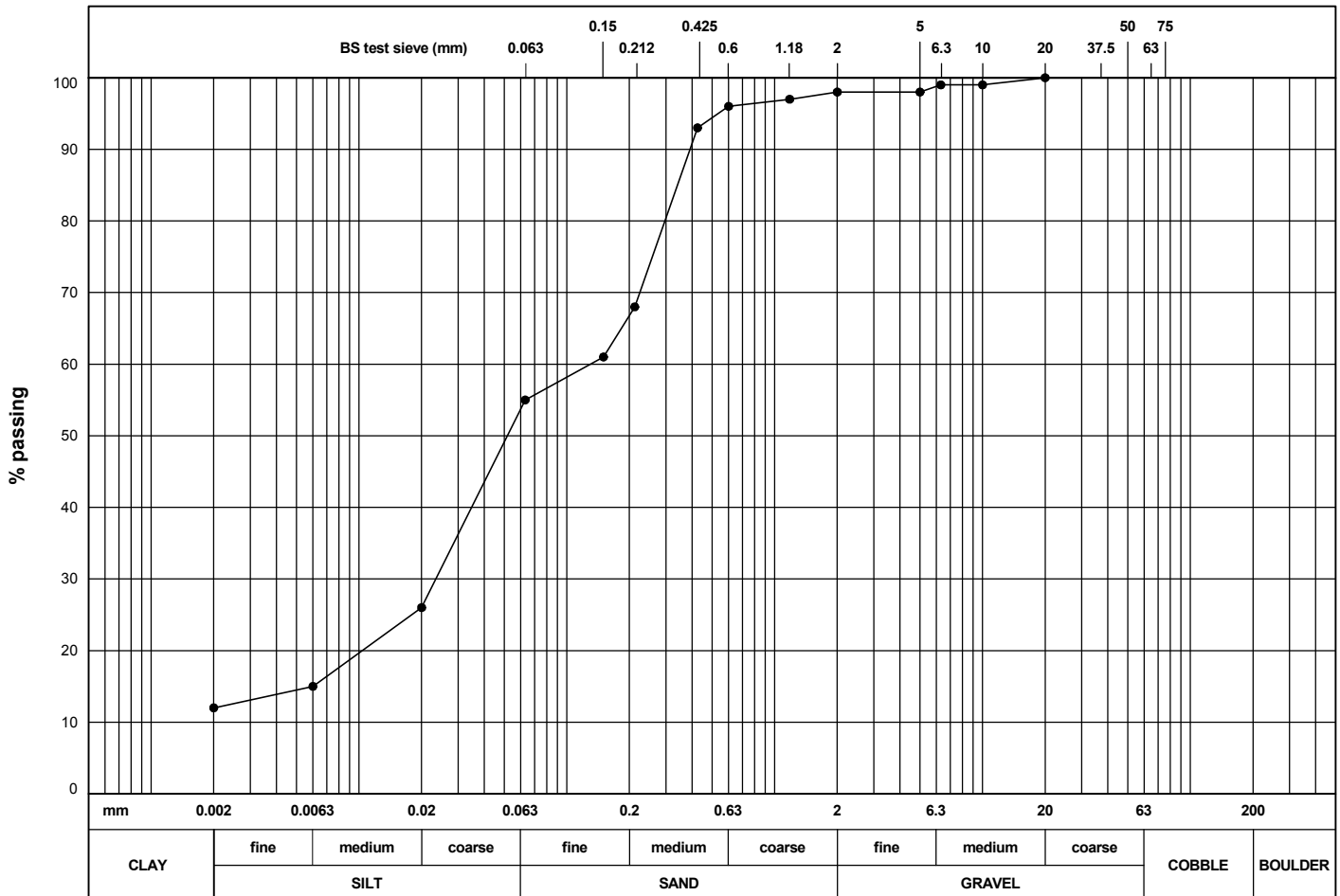
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown sandy slightly gravelly SILT

BH/TP No. BH502  
 SAMPLE No./TYPE 49D  
 SAMPLE DEPTH (m) 9.50  
 SPECIMEN DEPTH (m) 9.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:50

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	12						
SILT	43	150		5	98	20	26
SILT & CLAY	55						
SAND	43	75		2	98	6	15
GRAVEL	2						
COBBLE & BOULDER	0	63		1.18	97	2	12
test method(s)	9.2 & 9.4	50		0.6	96		
		37.5		0.425	93		
test method:		20	100	0.212	68		
9.2 - wet sieving		10	99	0.15	61		
9.3 - dry sieving		6.3	99	0.063	55		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

BH/TP No. BH502

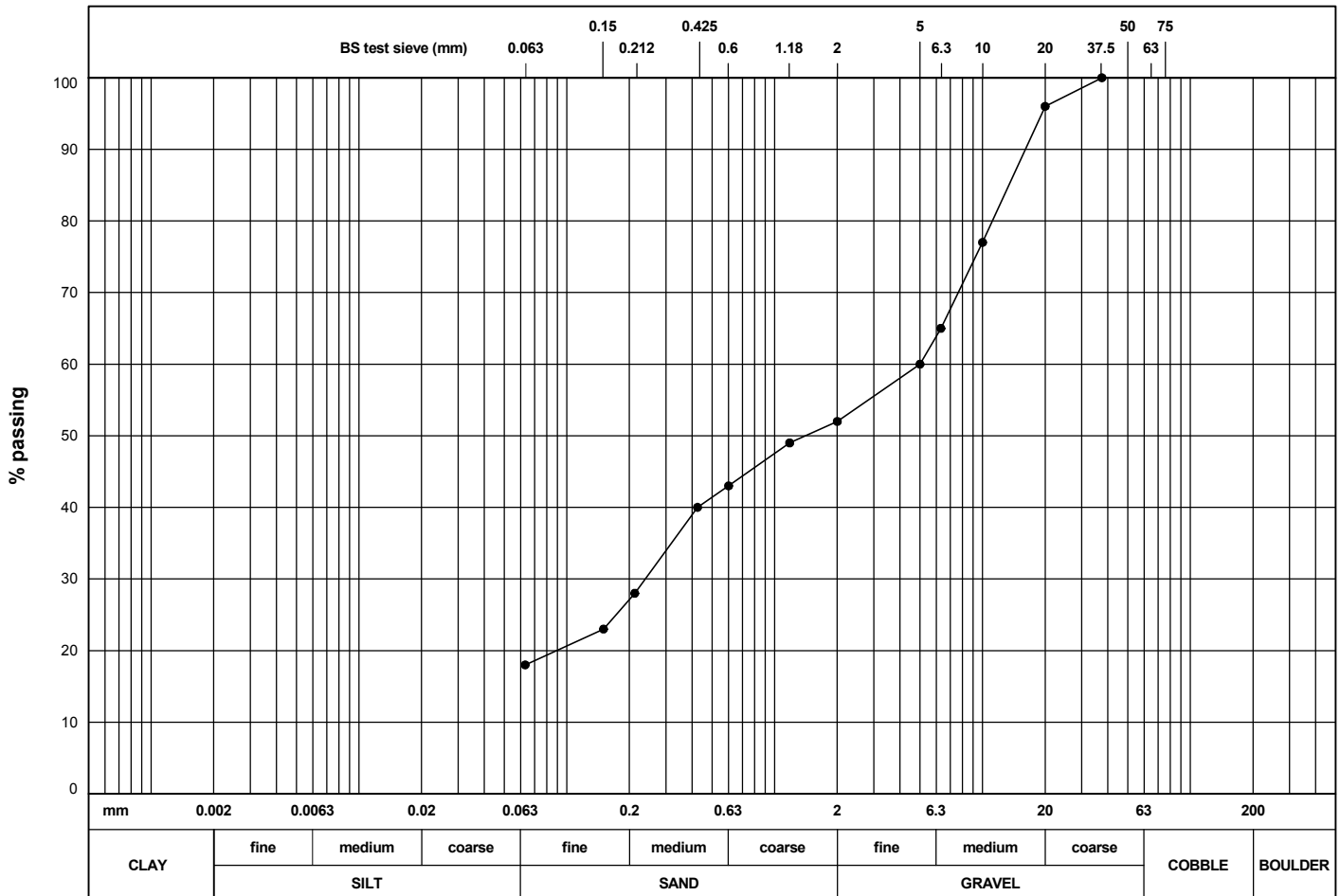
SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

SAMPLE No./TYPE 53D

SAMPLE DEPTH (m) 10.80

DESCRIPTION Reddish brown slightly clayey very sandy GRAVEL

SPECIMEN DEPTH (m) 10.80

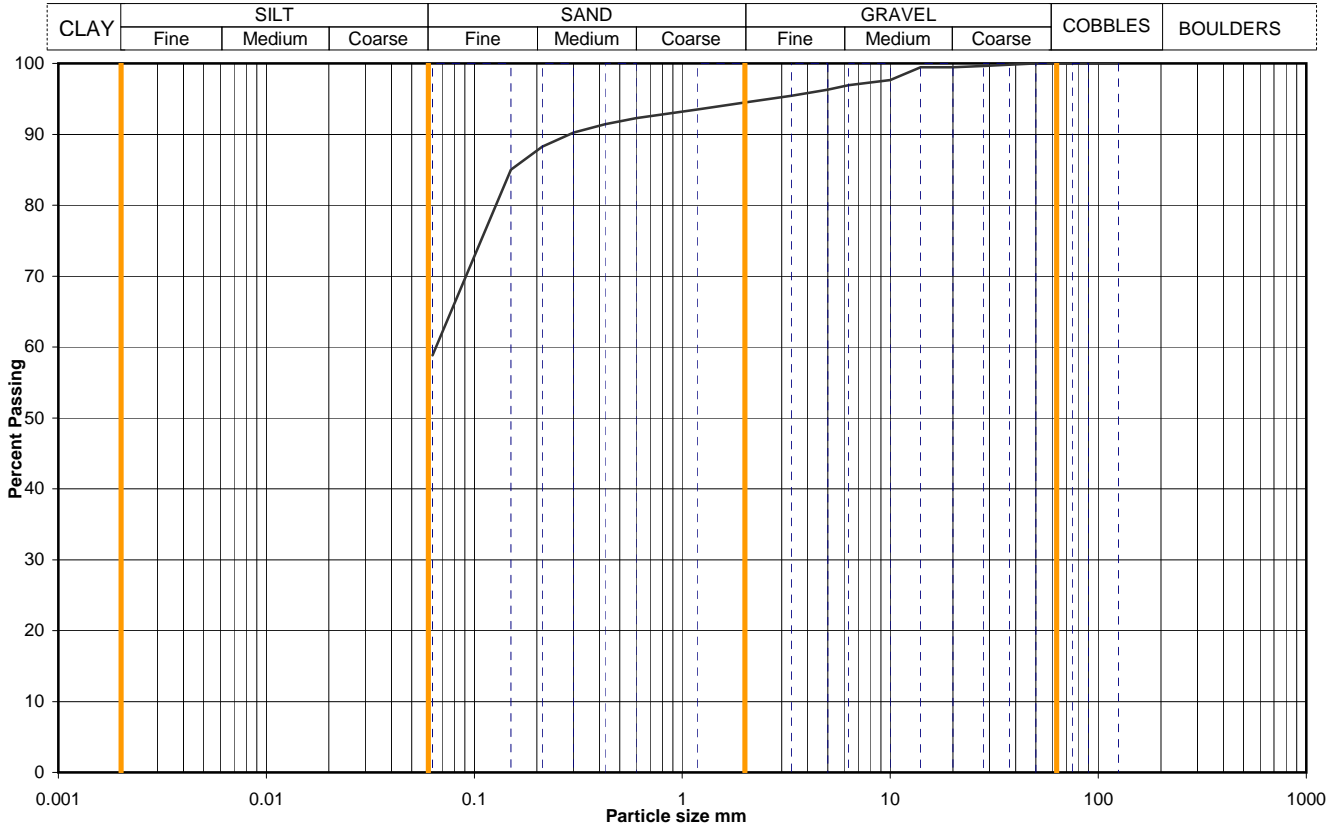


Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:51

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	60	20	
SILT		75		2	52	6	
SILT & CLAY	18	63		1.18	49	2	
SAND	34	50		0.6	43		
GRAVEL	48	37.5	100	0.425	40		
COBBLE & BOULDER	0	20	96	0.212	28		
test method(s)	9.2#	10	77	0.15	23		
test method:		6.3	65	0.063	18		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH703
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	0.50
			Samp No	3
			Type	B
			ID	MASTER3402
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	99		
10	98		
6.3	97		
5.0	96		
3.35	95		
2.00	95		
1.18	94		
0.600	92		
0.425	91		
0.300	90		
0.212	88		
0.150	85		
0.063	59		
		Dry mass of sample, kg	
		190.2	

Soil description	Brown slightly sandy slightly gravelly CLAY with occasional rootlets		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		5	5
		36	36
		silt+clay =	
*<60mm values to aid description only		59	59

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

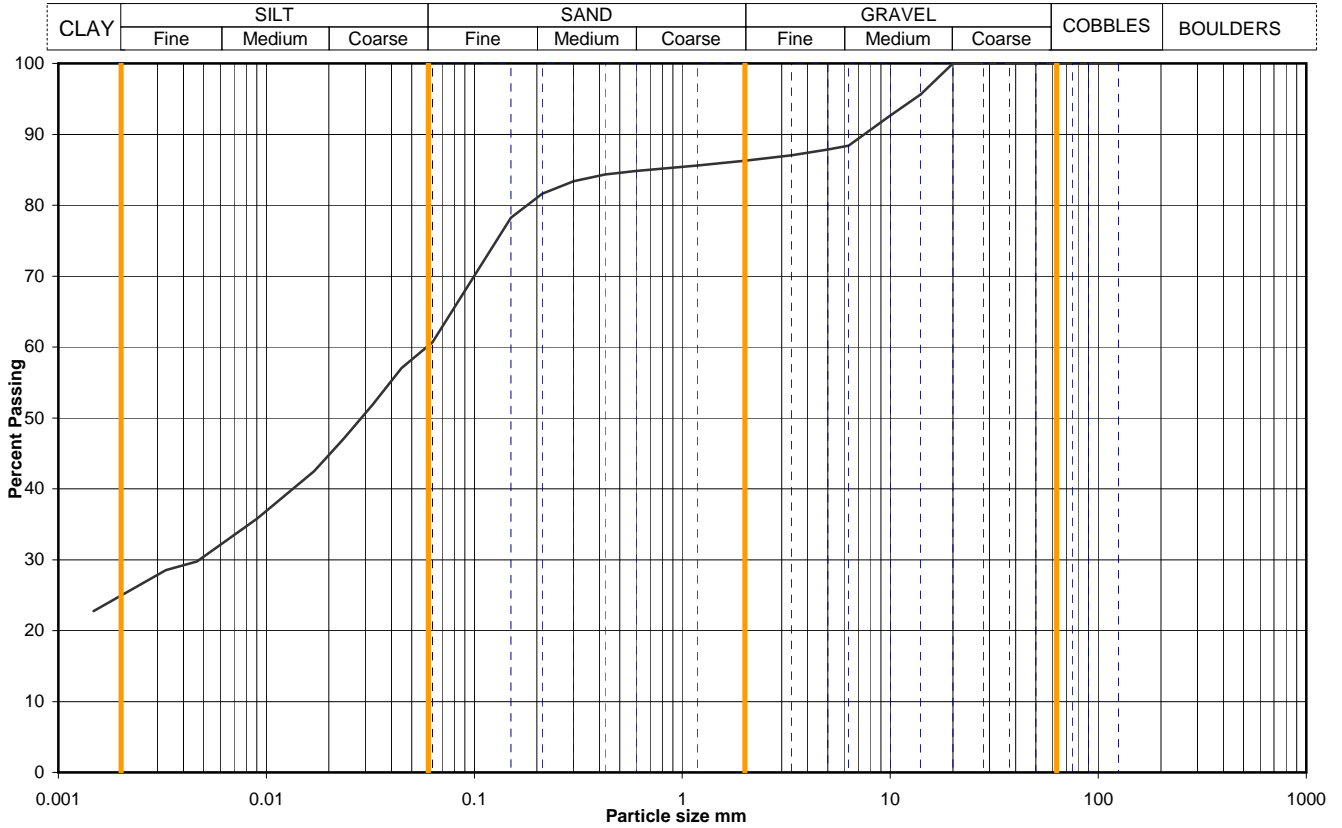


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH703
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.20
			Samp No	8
			Type	X
			ID	MASTER3403
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	61
90	100	0.0446	57
75	100	0.0324	52
63	100	0.0235	47
50	100	0.0170	42
37.5	100	0.0090	36
28	100	0.0046	30
20	100	0.0033	29
14	96	0.0015	23
10	93		
6.3	88		
5.0	88		
3.35	87		
2.00	86		
1.18	86		
0.600	85		
0.425	84		
0.300	83		
0.212	82		
0.150	78		
0.063	61		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	6.6

Soil description	Brown slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		14	14
		26	26
		35	35
		25	25

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11



Printed:07/09/2015 12:37

Figure  
**PSD**



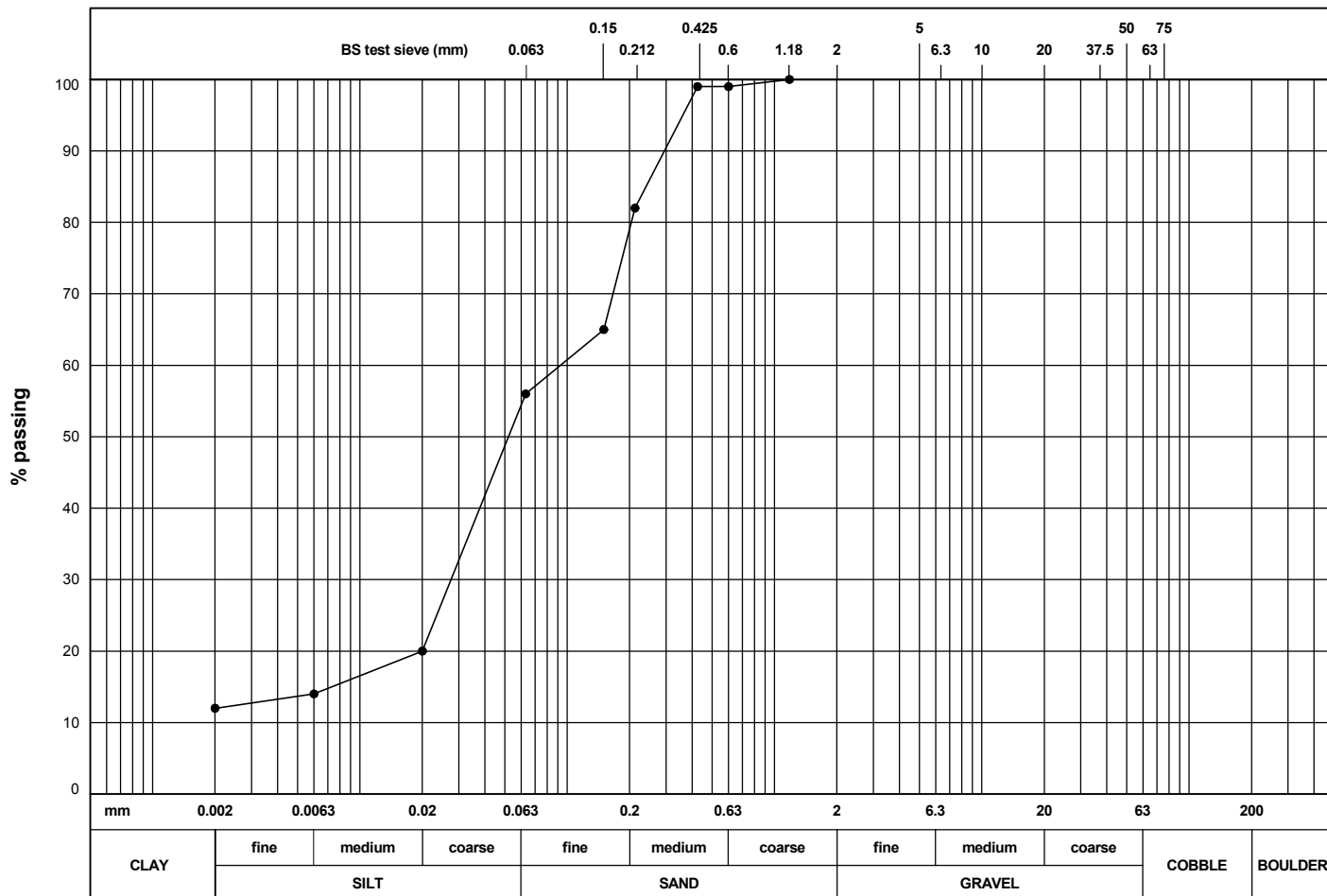
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Orangish brown sandy SILT

BH/TP No. BH703  
 SAMPLE No./TYPE 22X  
 SAMPLE DEPTH (m) 4.20  
 SPECIMEN DEPTH (m) 4.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:51

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	12	150		5		20	20
SILT	44	75		2		6	14
SILT & CLAY	56	63		1.18	100	2	12
SAND	44	50		0.6	99		
GRAVEL	0	37.5		0.425	99		
COBBLE & BOULDER	0	20		0.212	82		
test method(s)	9.2 & 9.4	10		0.15	65		
test method:		6.3		0.063	56		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks: # denotes sample tested is smaller than that which is recommended in accordance with BS1377				CONTRACT <b>30766</b>		CHECKED <b>SR</b>	

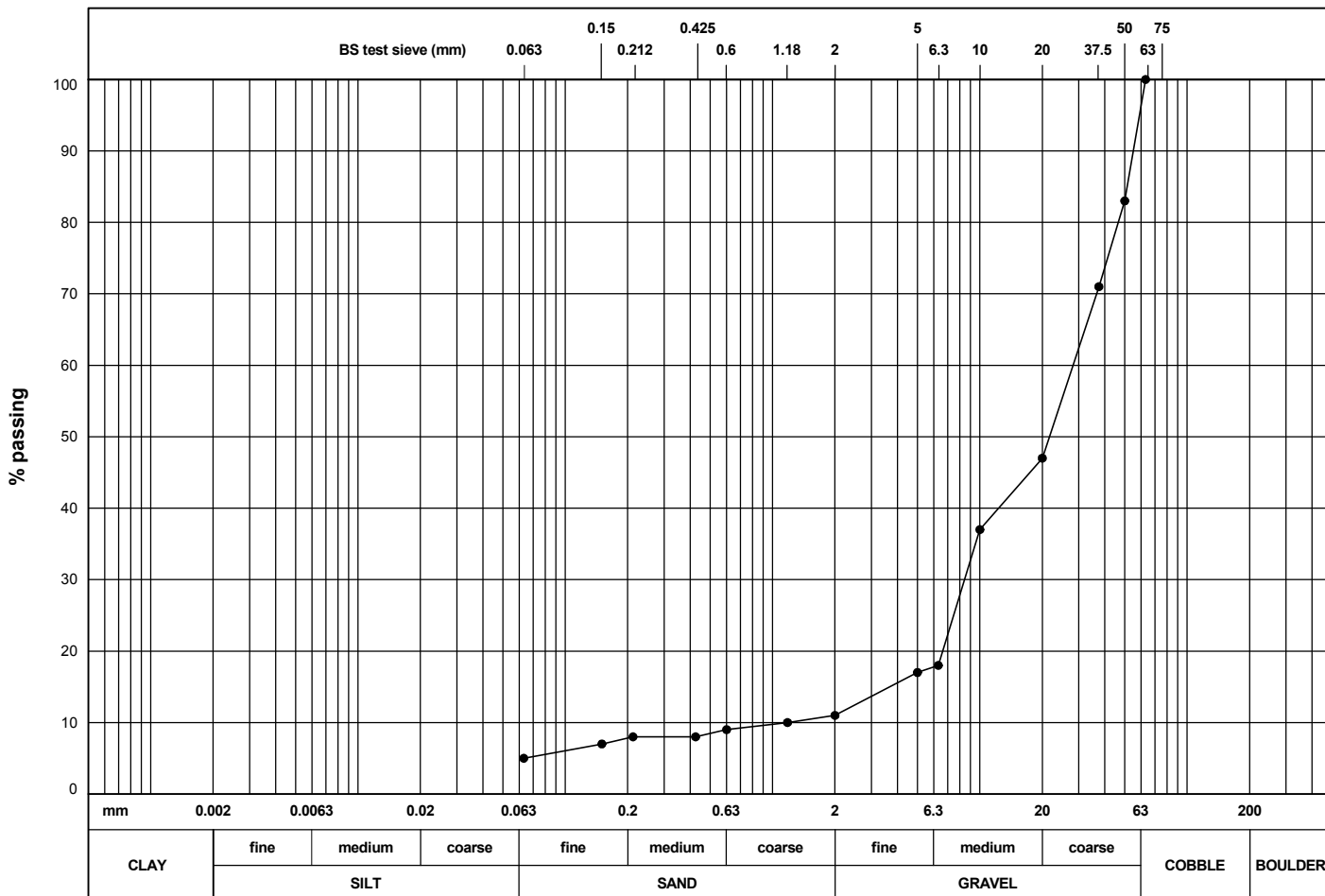
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Light brown silty sandy GRAVEL

BH/TP No. BH703  
 SAMPLE No./TYPE 30X  
 SAMPLE DEPTH (m) 6.20  
 SPECIMEN DEPTH (m) 6.20



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:52

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	17	20	
SILT		75		2	11	6	
SILT & CLAY	5						
SAND	6						
GRAVEL	85						
COBBLE & BOULDER	4	63	100	1.18	10	2	
test method(s)	9.2#	50	83	0.6	9		
		37.5	71	0.425	8		
test method:							
9.2 - wet sieving		20	47	0.212	8		
9.3 - dry sieving		10	37	0.15	7		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer		6.3	18	0.063	5		
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

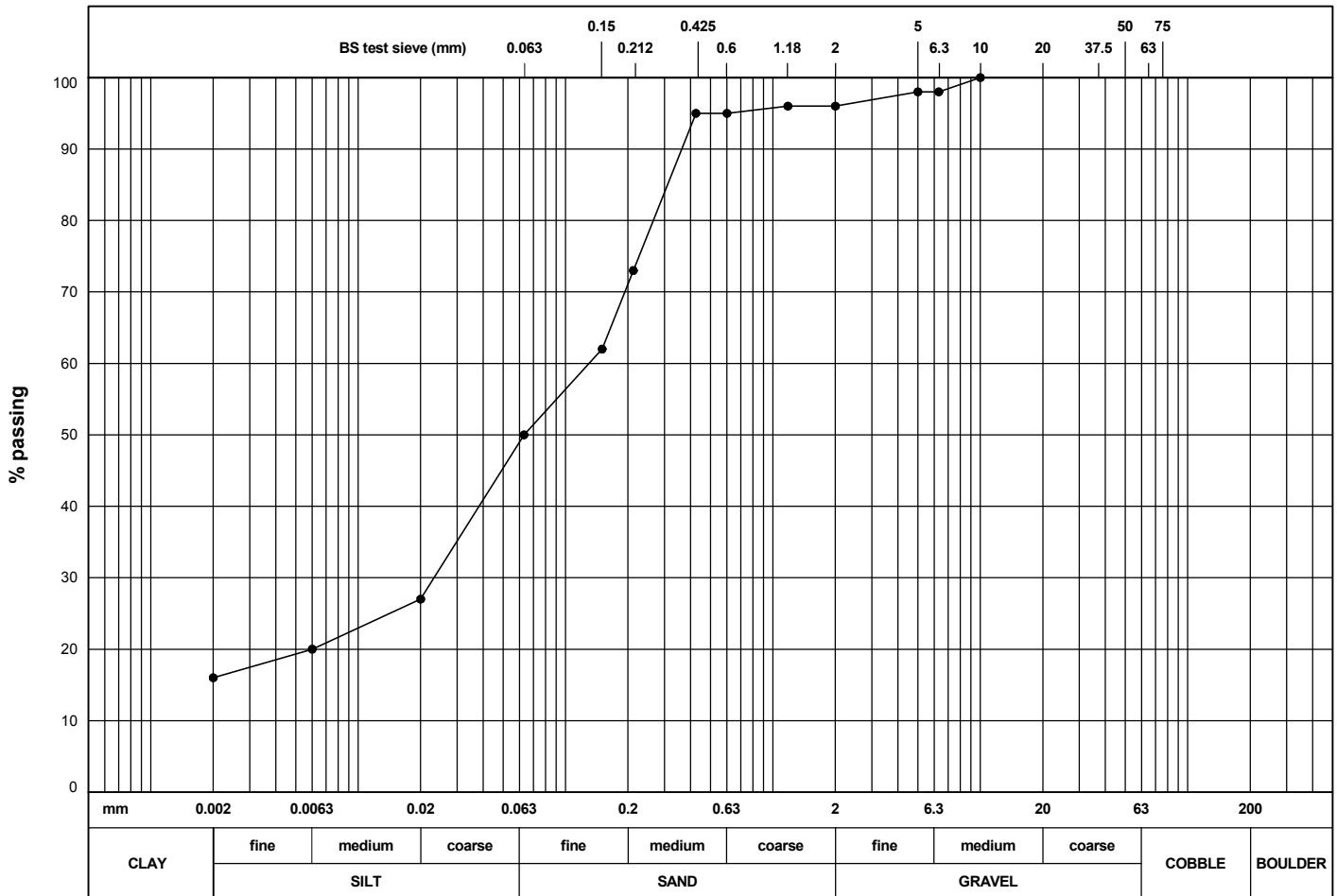
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown sandy slightly gravelly clayey SILT

BH/TP No. BH704  
 SAMPLE No./TYPE 8X  
 SAMPLE DEPTH (m) 1.20  
 SPECIMEN DEPTH (m) 1.80



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:53

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	16			5	98	20	27
SILT	34	150		2	96	6	20
SILT & CLAY	50	75		1.18	96	2	16
SAND	46	63					
GRAVEL	4			0.6	95		
COBBLE & BOULDER	0			0.425	95		
test method(s)	9.2 & 9.4	50		0.212	73		
test method:		37.5		0.15	62		
9.2 - wet sieving		20		0.063	50		
9.3 - dry sieving		10	100				
9.4 - sedimentation by pipette		6.3	98				
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

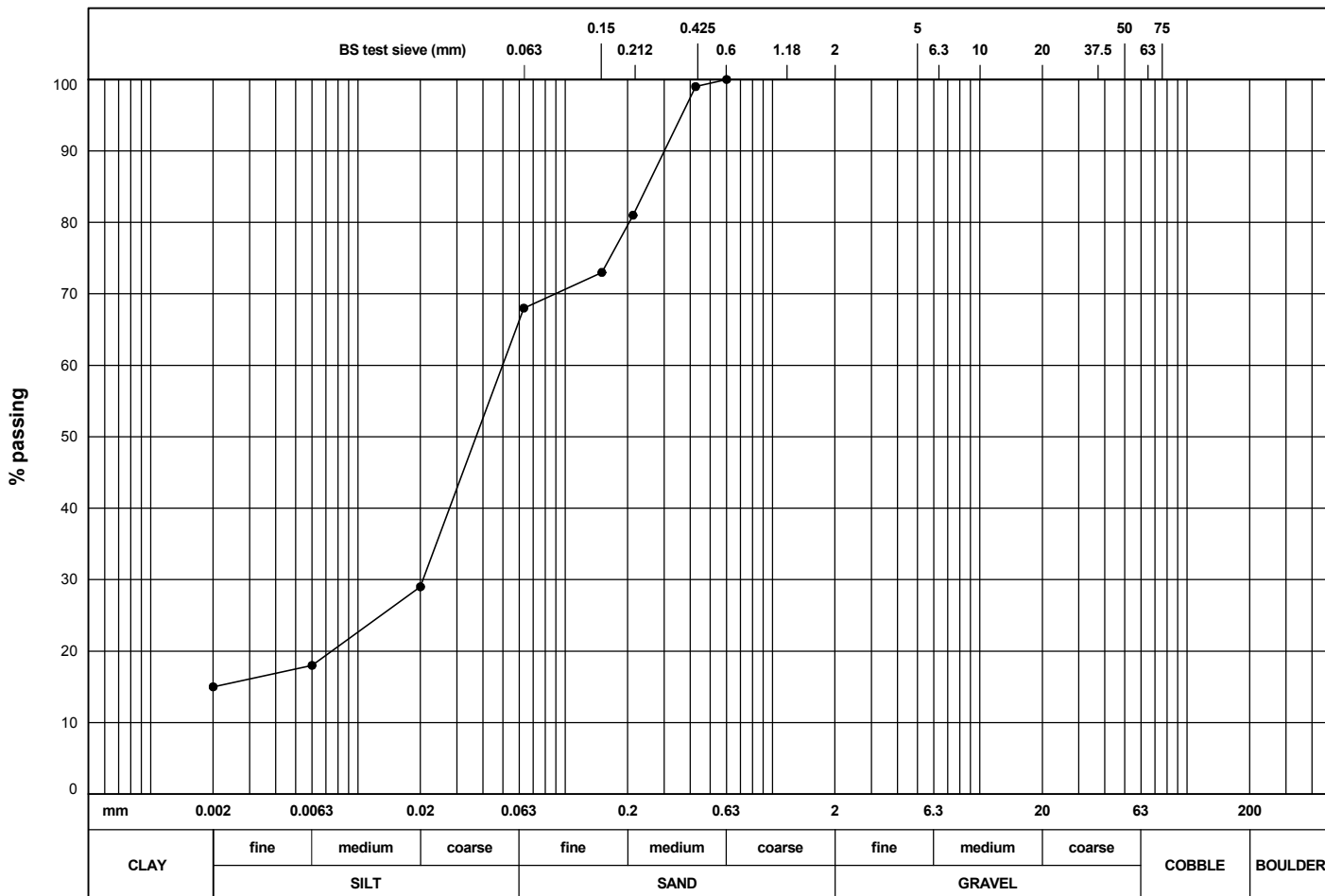
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Light brown sandy clayey SILT

BH/TP No. BH704  
 SAMPLE No./TYPE 17X  
 SAMPLE DEPTH (m) 3.20  
 SPECIMEN DEPTH (m) 3.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:54

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	15	150		5		20	29
SILT	53	75		2		6	18
SILT & CLAY	68	63		1.18		2	15
SAND	32	50		0.6	100		
GRAVEL	0	37.5		0.425	99		
COBBLE & BOULDER	0	20		0.212	81		
test method(s)	9.2 & 9.4	10		0.15	73		
test method:		6.3		0.063	68		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks: # denotes sample tested is smaller than that which is recommended in accordance with BS1377				CONTRACT <b>30766</b>		CHECKED <b>SR</b>	

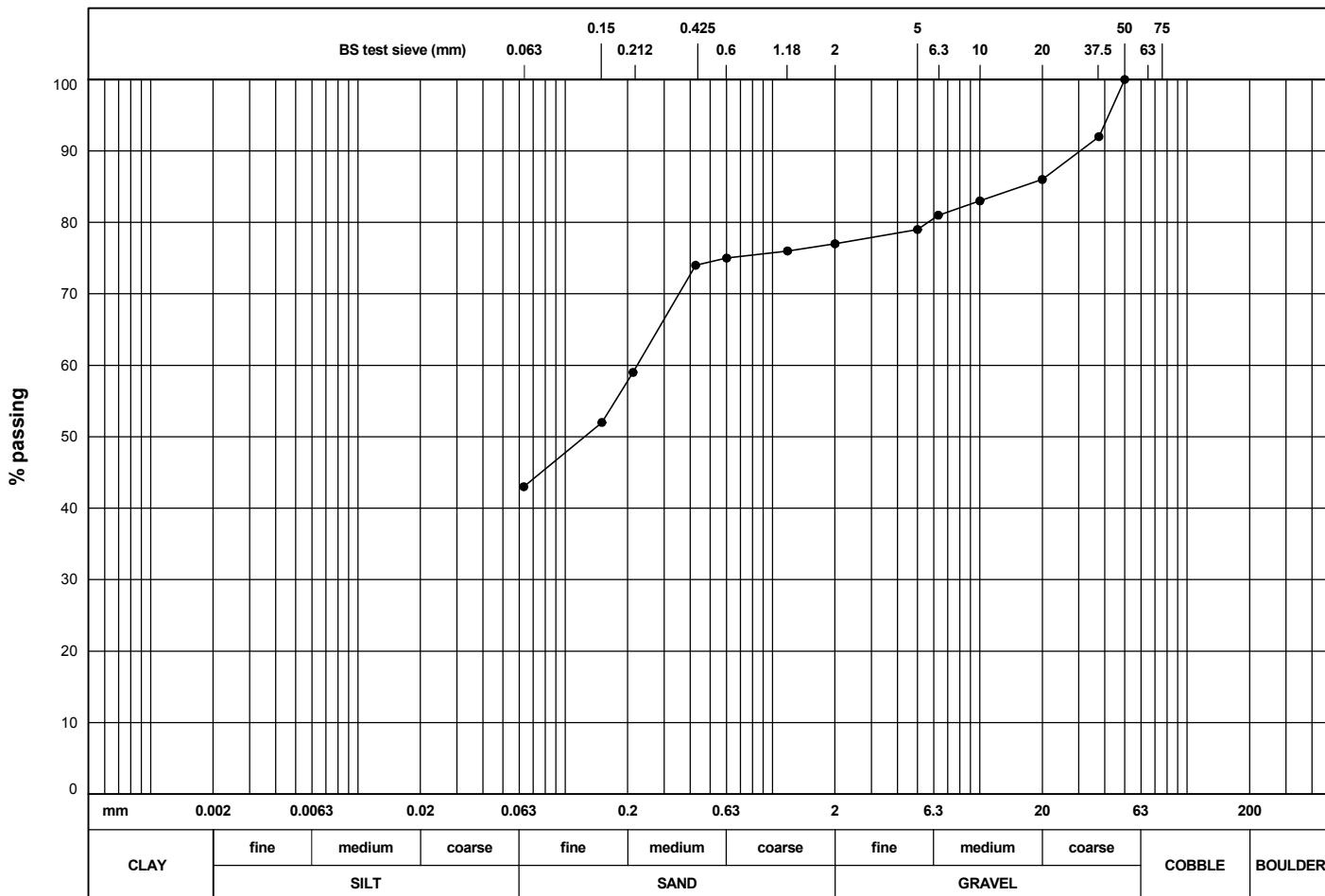
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Yellowish brown slightly sandy slightly gravelly CLAY

BH/TP No. BH705  
 SAMPLE No./TYPE 3B  
 SAMPLE DEPTH (m) 0.50  
 SPECIMEN DEPTH (m) 0.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:55

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	79	20	
SILT		75		2	77	6	
SILT & CLAY	43						
SAND	34						
GRAVEL	23						
COBBLE & BOULDER	0						
test method(s)	9.2	50	100	0.6	75		
		37.5	92	0.425	74		
test method:							
9.2 - wet sieving		20	86	0.212	59		
9.3 - dry sieving		10	83	0.15	52		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer		6.3	81	0.063	43		
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

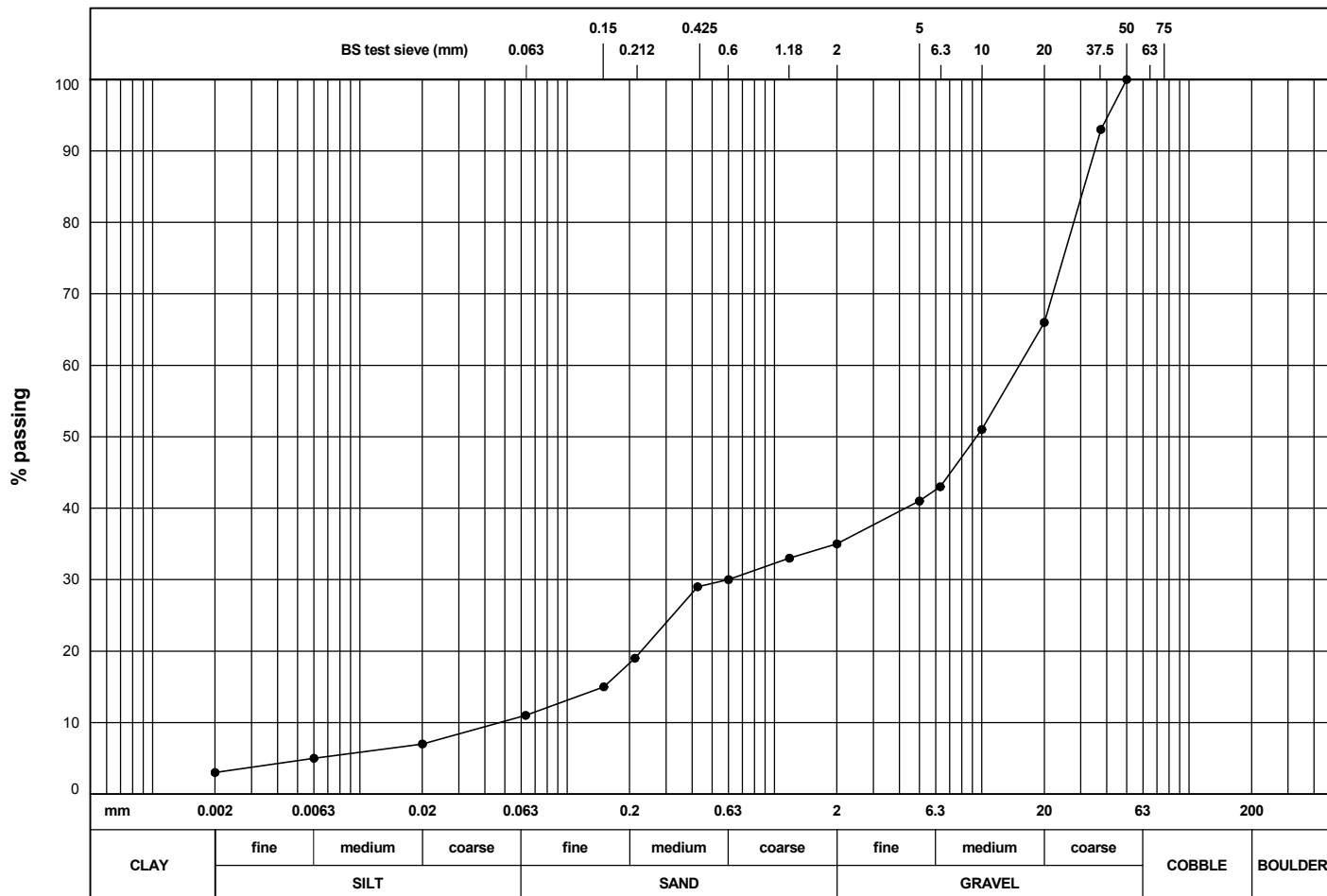
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Light brown silty very sandy GRAVEL

BH/TP No. BH705  
 SAMPLE No./TYPE 8X  
 SAMPLE DEPTH (m) 1.20  
 SPECIMEN DEPTH (m) 1.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:56

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	3	150		5	41	20	7
SILT	8	75		2	35	6	5
SILT & CLAY	11	63		1.18	33	2	3
SAND	24	50	100	0.6	30		
GRAVEL	65	37.5	93	0.425	29		
COBBLE & BOULDER	0	20	66	0.212	19		
test method(s)	9.2# & 9.4	10	51	0.15	15		
test method:		6.3	43	0.063	11		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

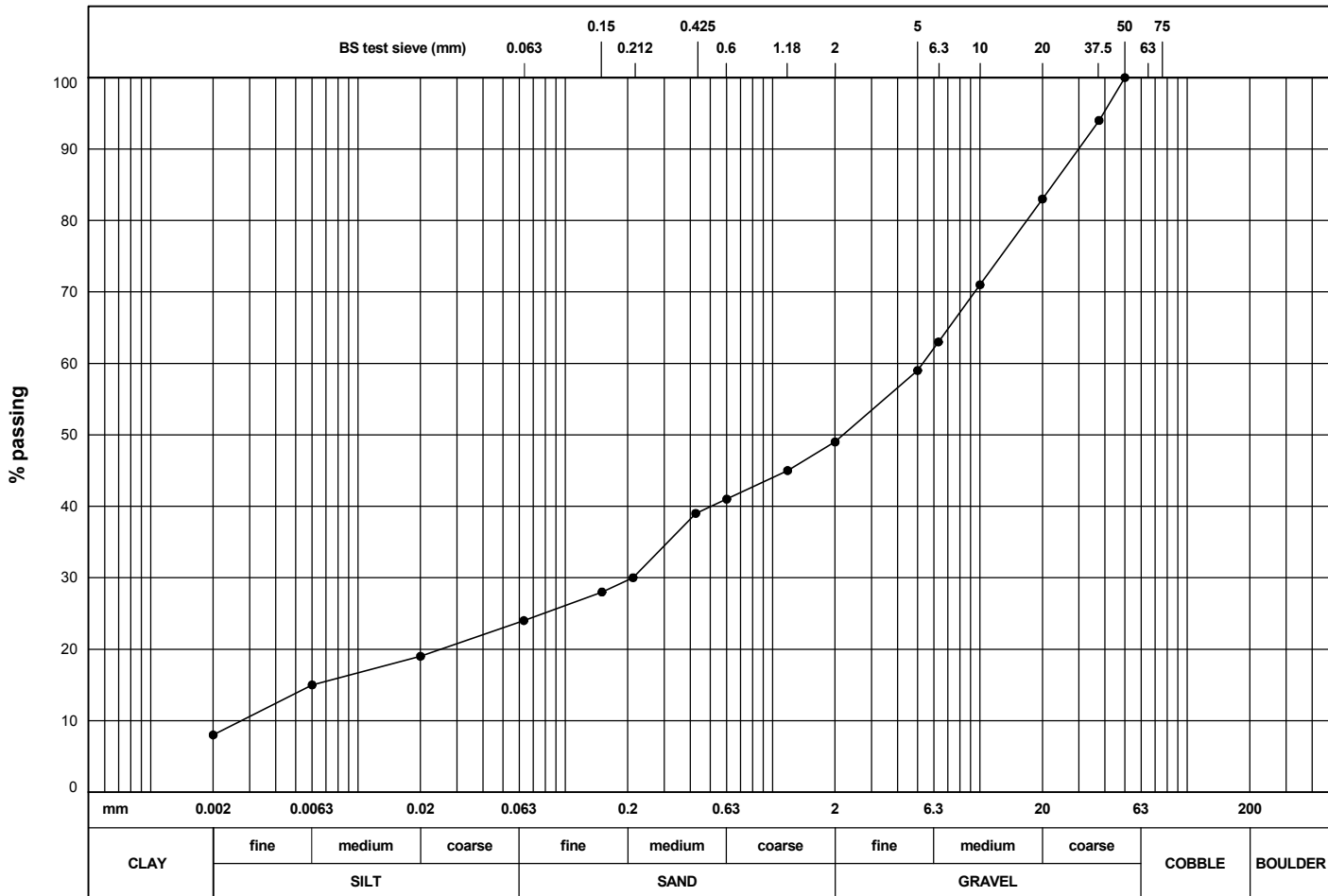
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Light brown silty very sandy GRAVEL

BH/TP No. BH705  
 SAMPLE No./TYPE 12X  
 SAMPLE DEPTH (m) 2.20  
 SPECIMEN DEPTH (m) 2.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:57

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	8			5	59	20	19
SILT	16	150		2	49	6	15
SILT & CLAY	24	75		1.18	45	2	8
SAND	25	63					
GRAVEL	51						
COBBLE & BOULDER	0						
test method(s)	9.2# & 9.4	50	100	0.6	41		
		37.5	94	0.425	39		
test method:		20	83	0.212	30		
9.2 - wet sieving		10	71	0.15	28		
9.3 - dry sieving		6.3	63	0.063	24		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

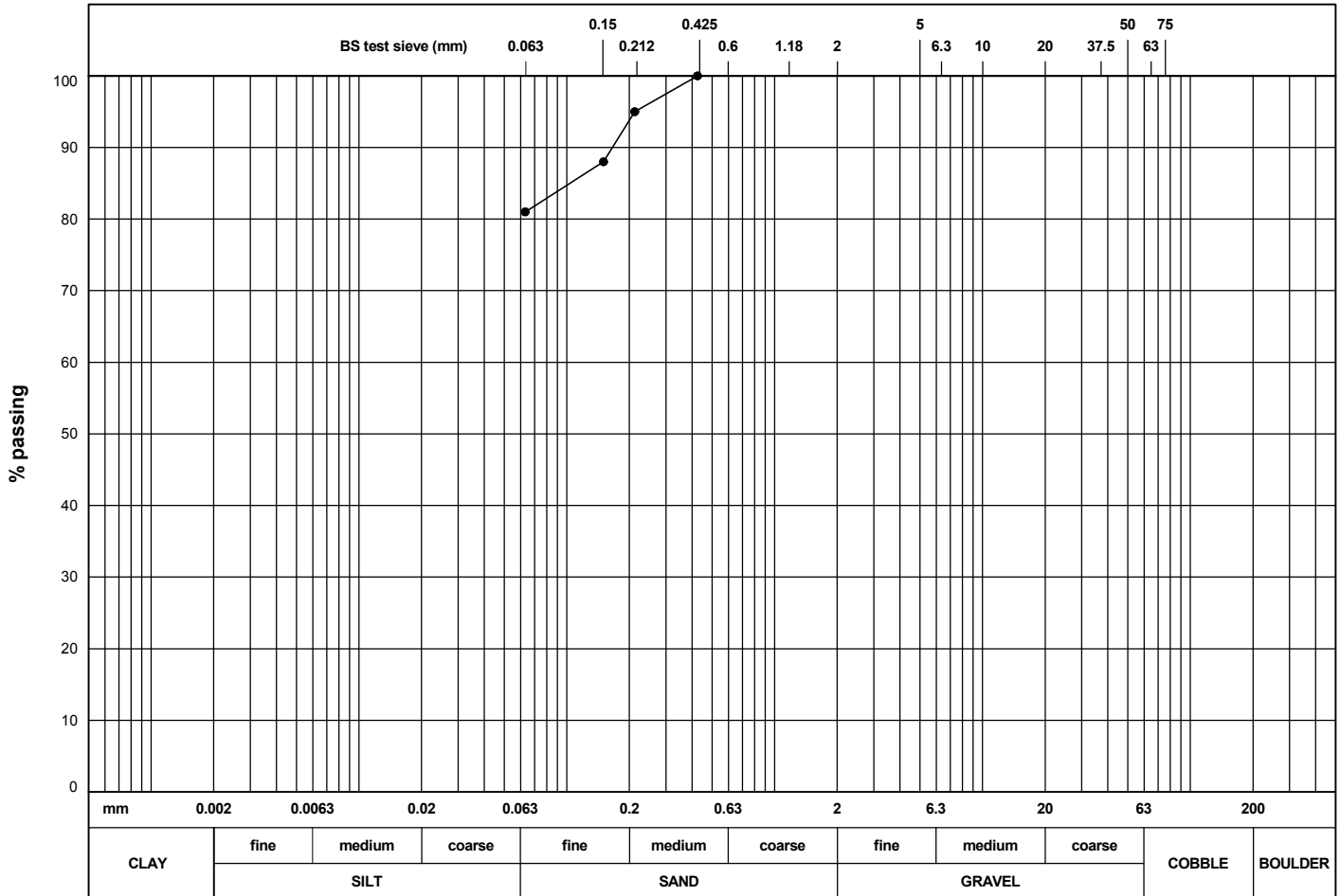
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown slightly sandy silty CLAY

BH/TP No. BH706  
 SAMPLE No./TYPE 8X  
 SAMPLE DEPTH (m) 1.20  
 SPECIMEN DEPTH (m) 1.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:58

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5		20	
SILT		75		2		6	
SILT & CLAY	81	63		1.18		2	
SAND	19	50		0.6			
GRAVEL	0	37.5		0.425	100		
COBBLE & BOULDER	0	20		0.212	95		
test method(s)	9.2	10		0.15	88		
test method:		6.3		0.063	81		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks: # denotes sample tested is smaller than that which is recommended in accordance with BS1377						CONTRACT <b>30766</b>	CHECKED <b>SR</b>



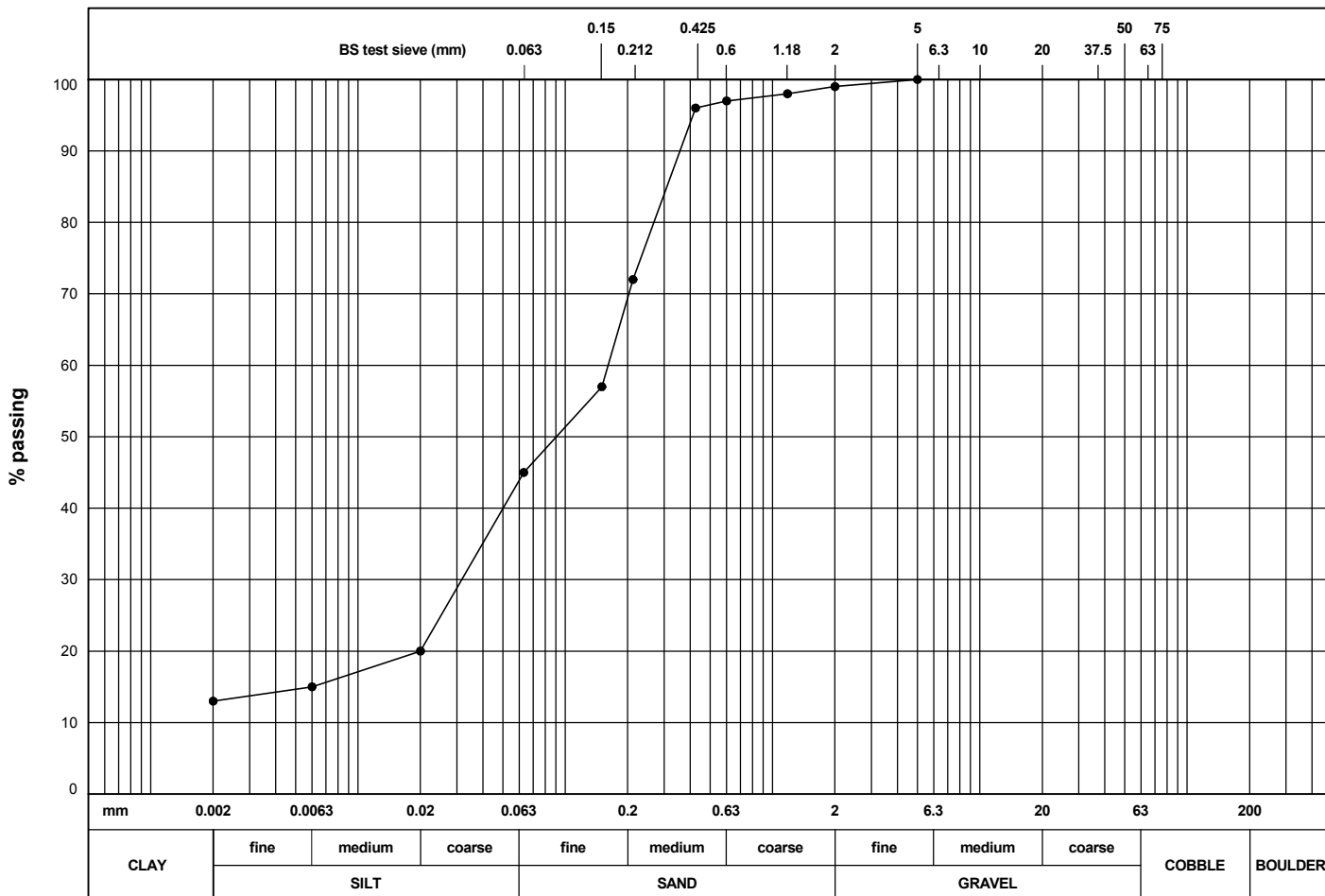
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Yellowish brown sandy clayey SILT

BH/TP No. BH706  
 SAMPLE No./TYPE 14X  
 SAMPLE DEPTH (m) 2.20  
 SPECIMEN DEPTH (m) 2.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:08:59

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	13			5	100	20	20
SILT	32	150		2	99	6	15
SILT & CLAY	45	75		1.18	98	2	13
SAND	54	63		0.6	97		
GRAVEL	1	50		0.425	96		
COBBLE & BOULDER	0	37.5		0.212	72		
test method(s)	9.2 & 9.4	20		0.15	57		
test method:		10		0.063	45		
9.2 - wet sieving		6.3					
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

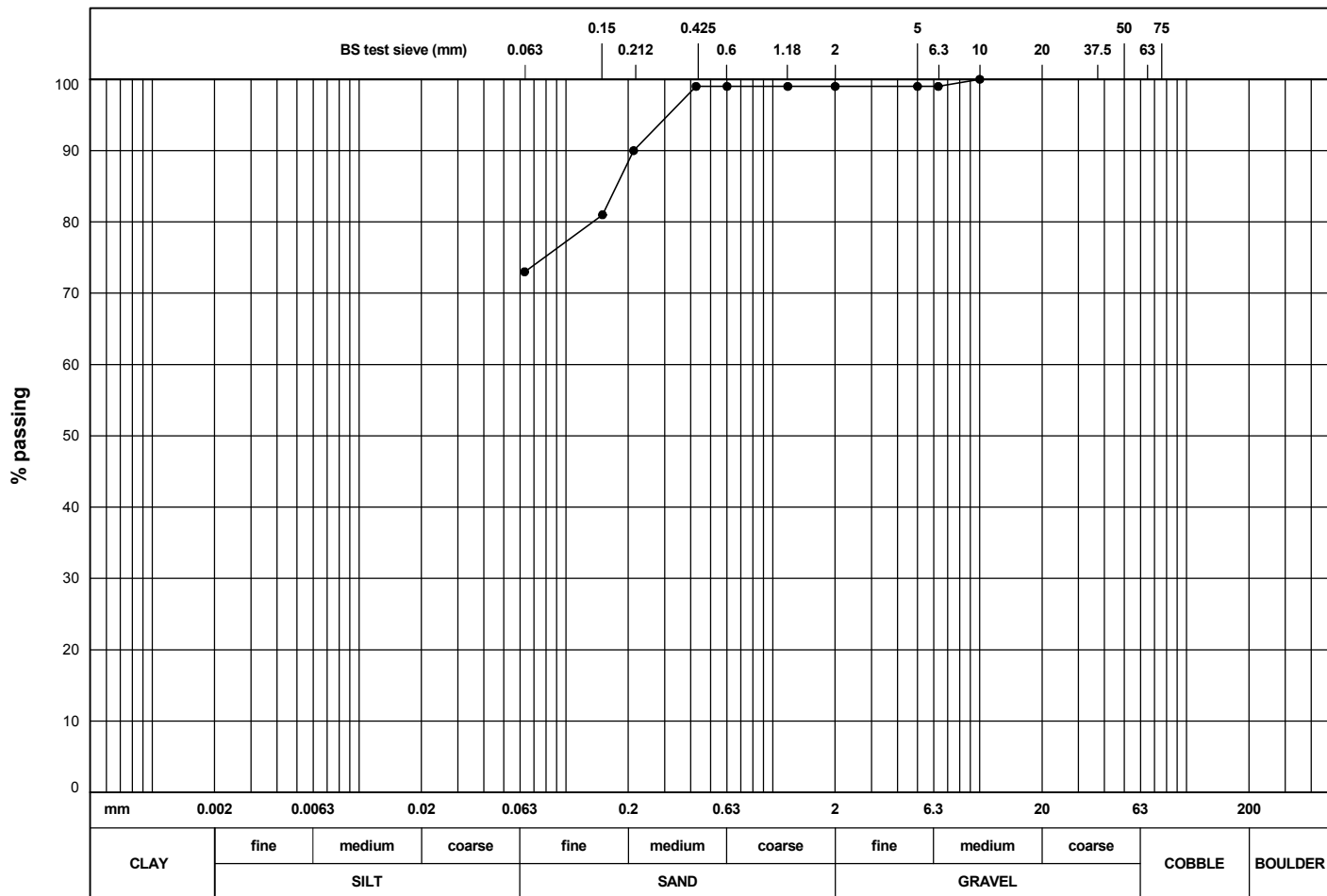
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Orangish brown slightly sandy CLAY

BH/TP No. BH706  
 SAMPLE No./TYPE 18X  
 SAMPLE DEPTH (m) 3.20  
 SPECIMEN DEPTH (m) 4.00



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:00

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	99	20	
SILT		75		2	99	6	
SILT & CLAY	73	63		1.18	99	2	
SAND	26	50		0.6	99		
GRAVEL	1	37.5		0.425	99		
COBBLE & BOULDER	0	20		0.212	90		
test method(s)	9.2	10	100	0.15	81		
test method:		6.3	99	0.063	73		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

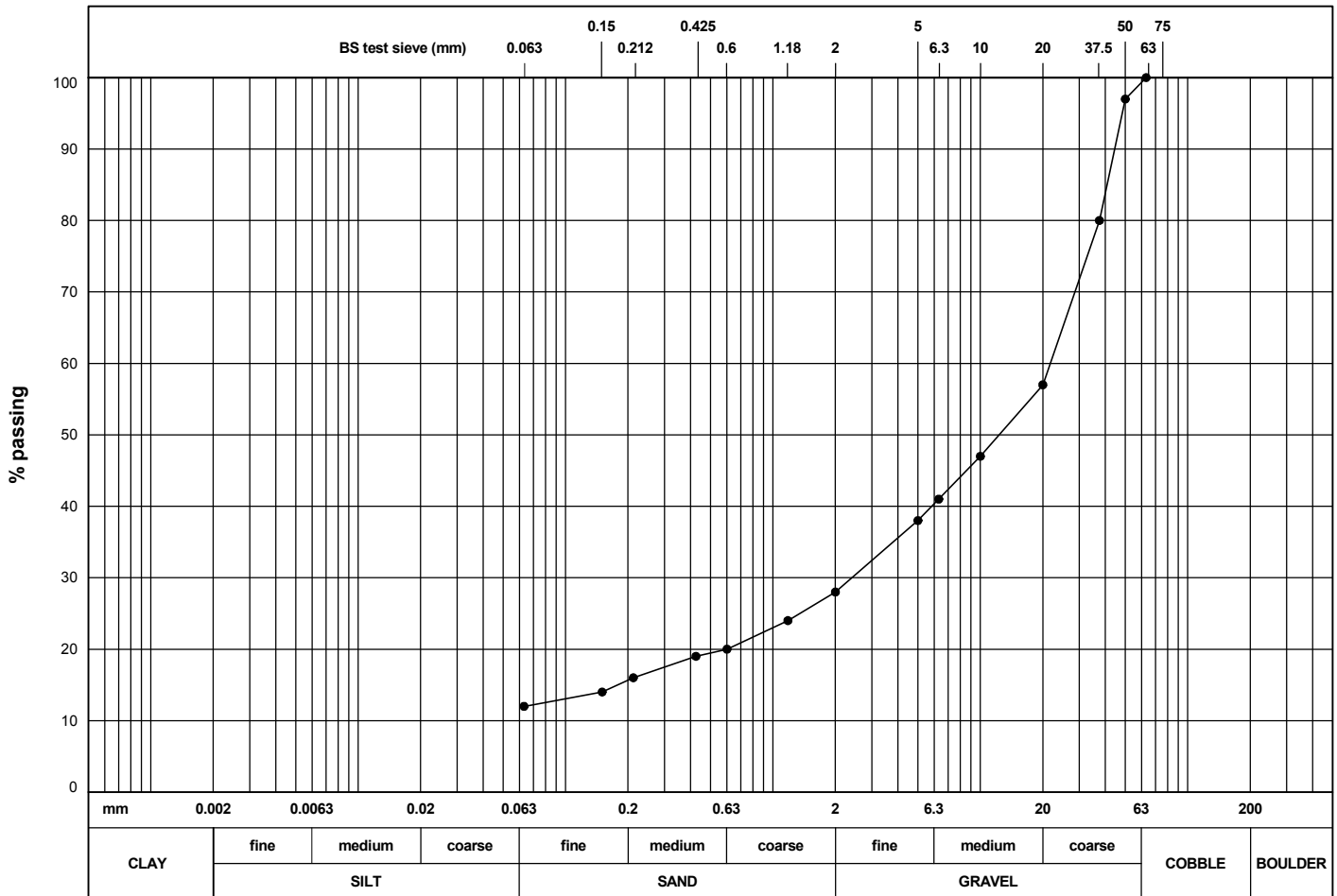
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Orangish brown clayey sandy GRAVEL

BH/TP No. BH706  
 SAMPLE No./TYPE 26X  
 SAMPLE DEPTH (m) 5.20  
 SPECIMEN DEPTH (m) 5.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:01

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	38	20	
SILT		75		2	28	6	
SILT & CLAY	12						
SAND	16	63	100	1.18	24	2	
GRAVEL	71						
COBBLE & BOULDER	1						
test method(s)	9.2#	50	97	0.6	20		
		37.5	80	0.425	19		
test method:		20	57	0.212	16		
9.2 - wet sieving		10	47	0.15	14		
9.3 - dry sieving		6.3	41	0.063	12		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

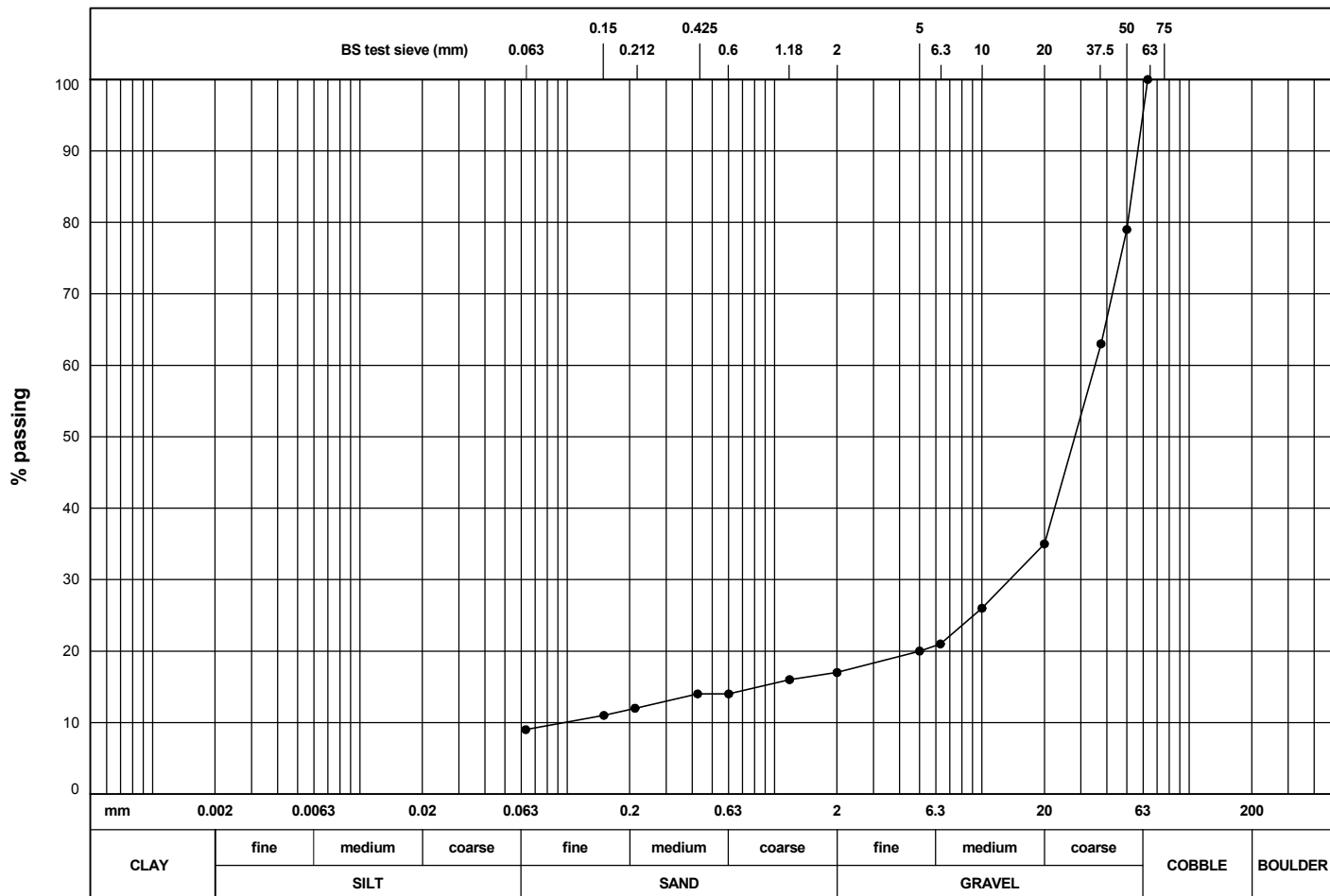
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Yellowish brown clayey sandy GRAVEL

BH/TP No. BH706  
 SAMPLE No./TYPE 32X  
 SAMPLE DEPTH (m) 6.20  
 SPECIMEN DEPTH (m) 6.80

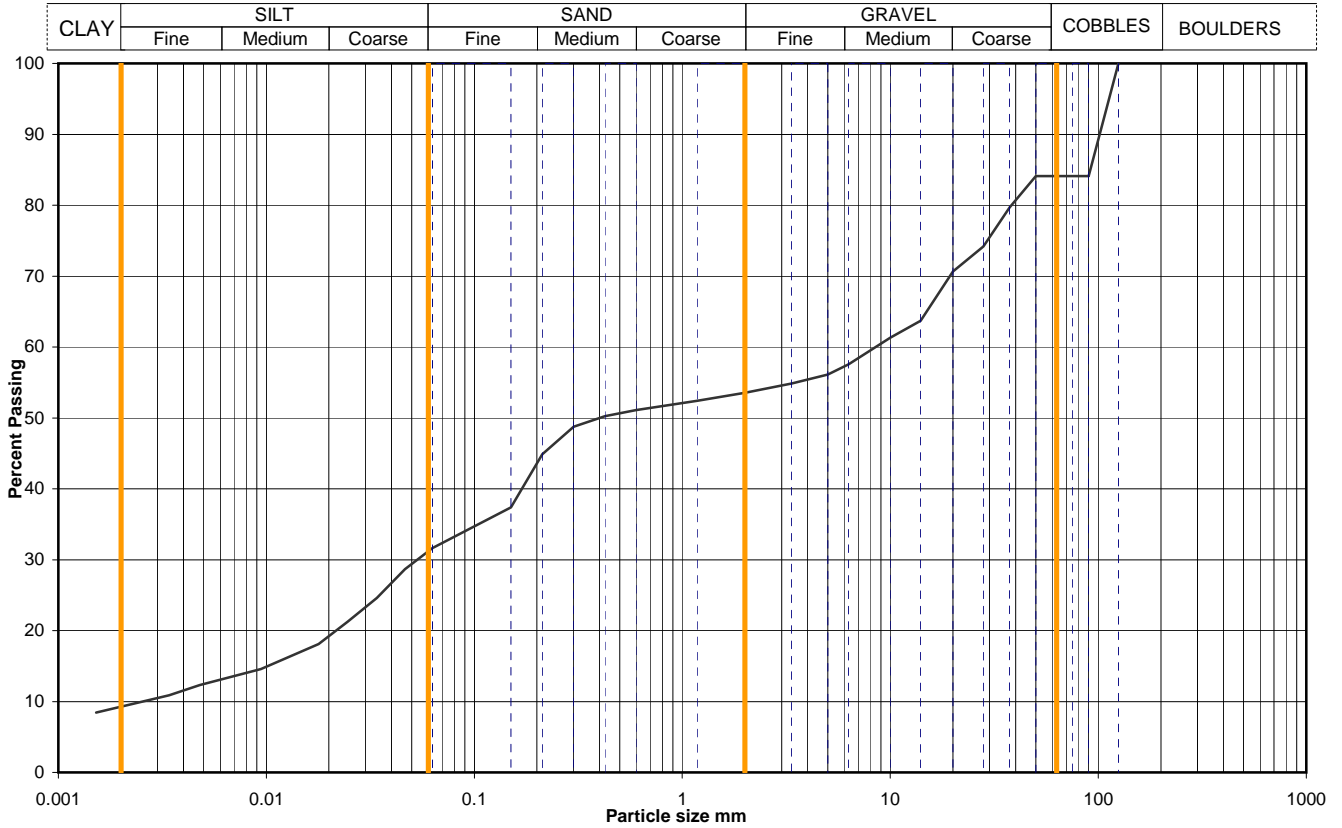


Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:02

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	20	20	
SILT		75		2	17	6	
SILT & CLAY	9						
SAND	8						
GRAVEL	79	63	100	1.18	16	2	
COBBLE & BOULDER	4						
test method(s)	9.2#	50	79	0.6	14		
		37.5	63	0.425	14		
test method:		20	35	0.212	12		
9.2 - wet sieving		10	26	0.15	11		
9.3 - dry sieving		6.3	21	0.063	9		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH707
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	2.20
			Samp No	14
			Type	X
			ID	MASTER3185
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	32
90	84	0.0465	29
75	84	0.0339	25
63	84	0.0246	21
50	84	0.0178	18
37.5	80	0.0094	15
28	74	0.0048	12
20	71	0.0034	11
14	64	0.0015	8
10	61		
6.3	58		
5.0	56		
3.35	55		
2.00	54		
1.18	52		
0.600	51		
0.425	50		
0.300	49		
0.212	45		
0.150	37		
0.063	32		

Particle density, Mg/m <sup>3</sup> 2.65 assumed	Dry mass of sample, kg 7.4
---	-------------------------------

Soil description	Grey slightly sandy slightly gravelly silty CLAY with chalk fragments.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		16	0
		30	36
		22	26
		22	26
		10	12

<b>Uniformity Coefficient</b>	<b>D<sub>60</sub> / D<sub>10</sub></b>	3350
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<b>Test Method</b>	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

**QA Ref**  
SLR 2,9  
Rev 88  
Aug 11

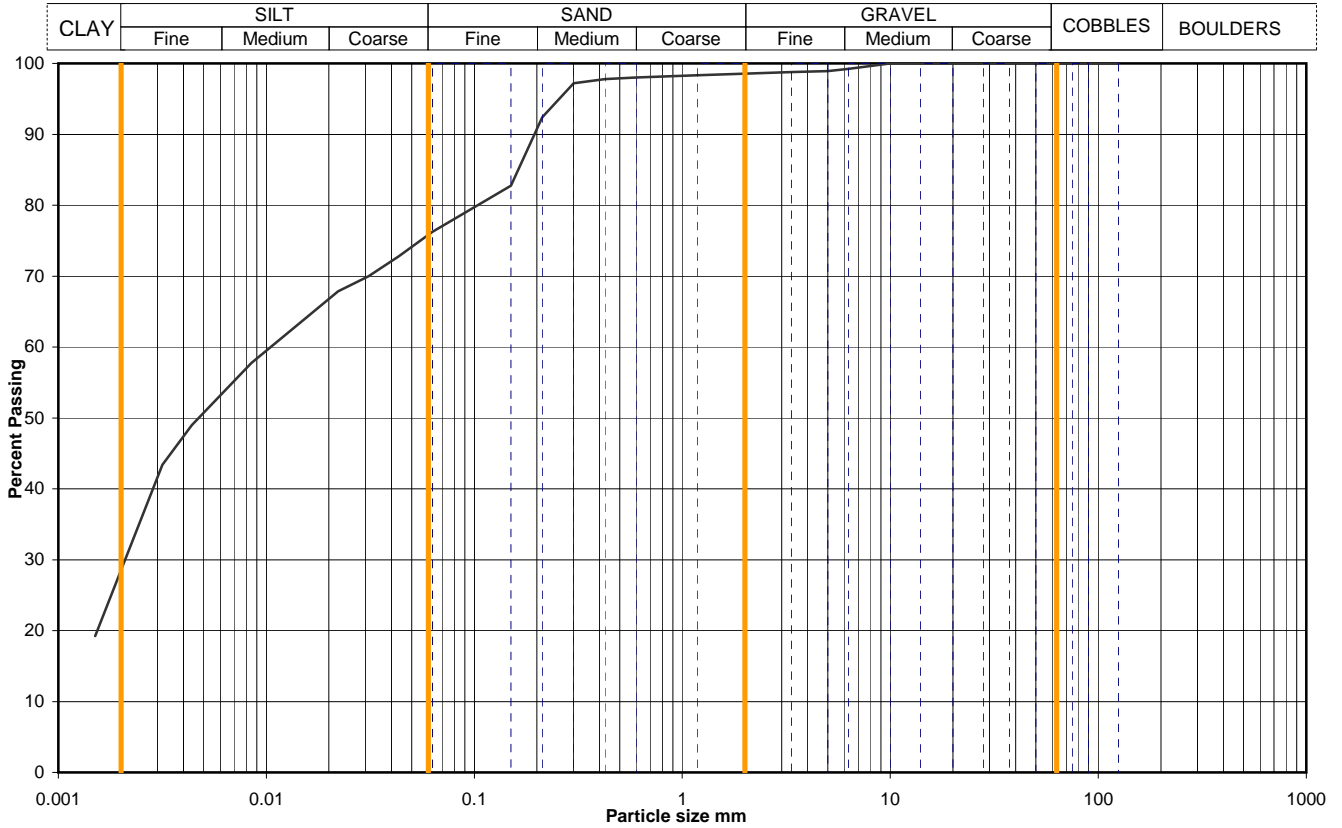


Printed:07/09/2015 12:37

**Figure**  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	BH707
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	5.20
			Samp No	32
			Type	X
			ID	MASTER3190
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	76
90	100	0.0433	73
75	100	0.0310	70
63	100	0.0222	68
50	100	0.0159	64
37.5	100	0.0085	58
28	100	0.0044	49
20	100	0.0032	43
14	100	0.0015	19
10	100		
6.3	99		
5.0	99		
3.35	99		
2.00	99		
1.18	98		
0.600	98		
0.425	98		
0.300	97		
0.212	92		
0.150	83		
0.063	76		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	10.6

Soil description	Light brown slightly sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		1	1
		23	23
		47	47
		29	29

\*<60mm values to aid description only

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11



Printed:07/09/2015 12:37

Figure  
**PSD**

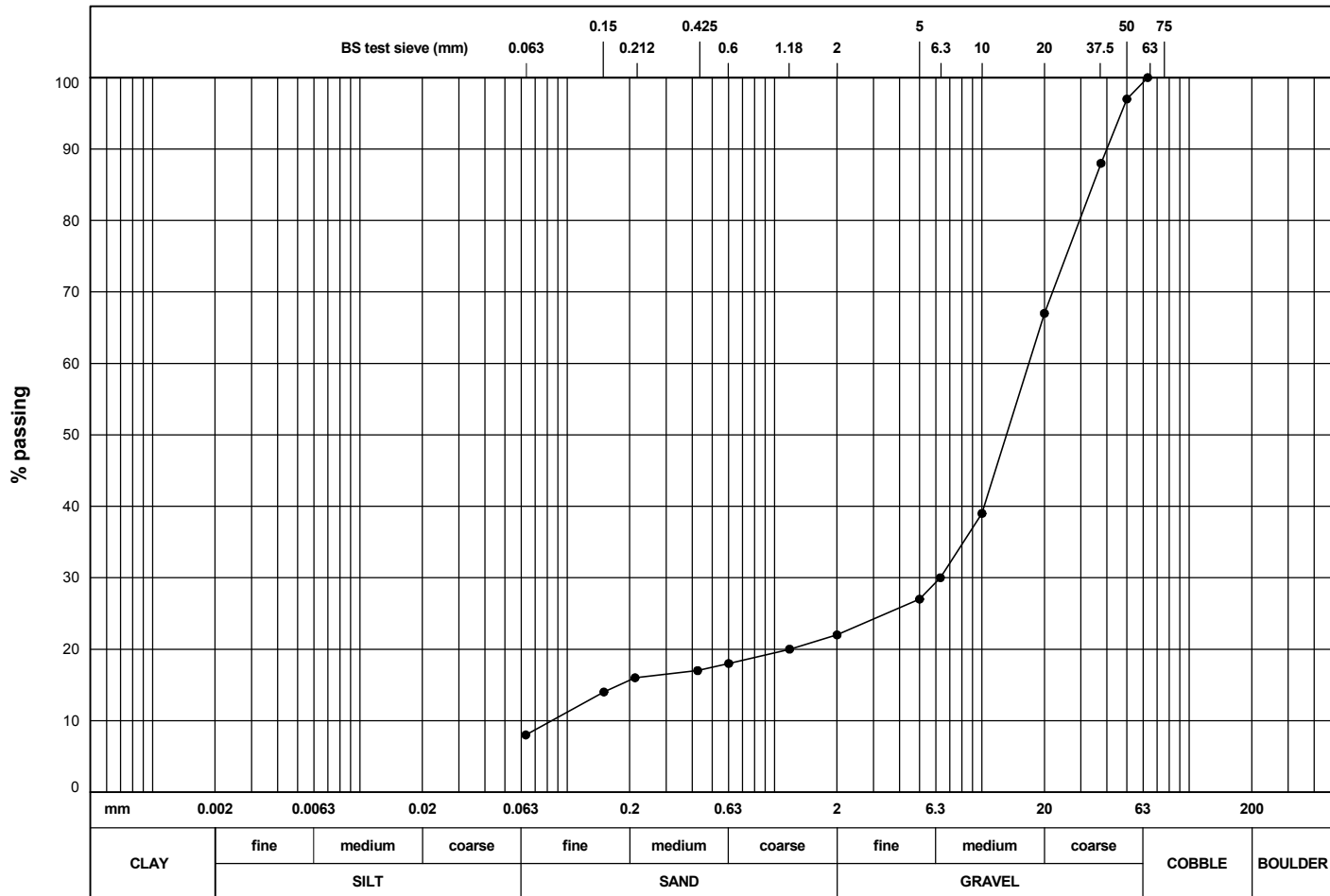
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown silty sandy GRAVEL

BH/TP No. BH707  
 SAMPLE No./TYPE 47X  
 SAMPLE DEPTH (m) 9.20  
 SPECIMEN DEPTH (m) 9.20



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:03

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	27	20	
SILT	8	75		2	22	6	
SILT & CLAY		63	100	1.18	20	2	
SAND	14	50	97	0.6	18		
GRAVEL	77	37.5	88	0.425	17		
COBBLE & BOULDER	1	20	67	0.212	16		
test method(s)	9.2#	10	39	0.15	14		
test method:		6.3	30	0.063	8		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

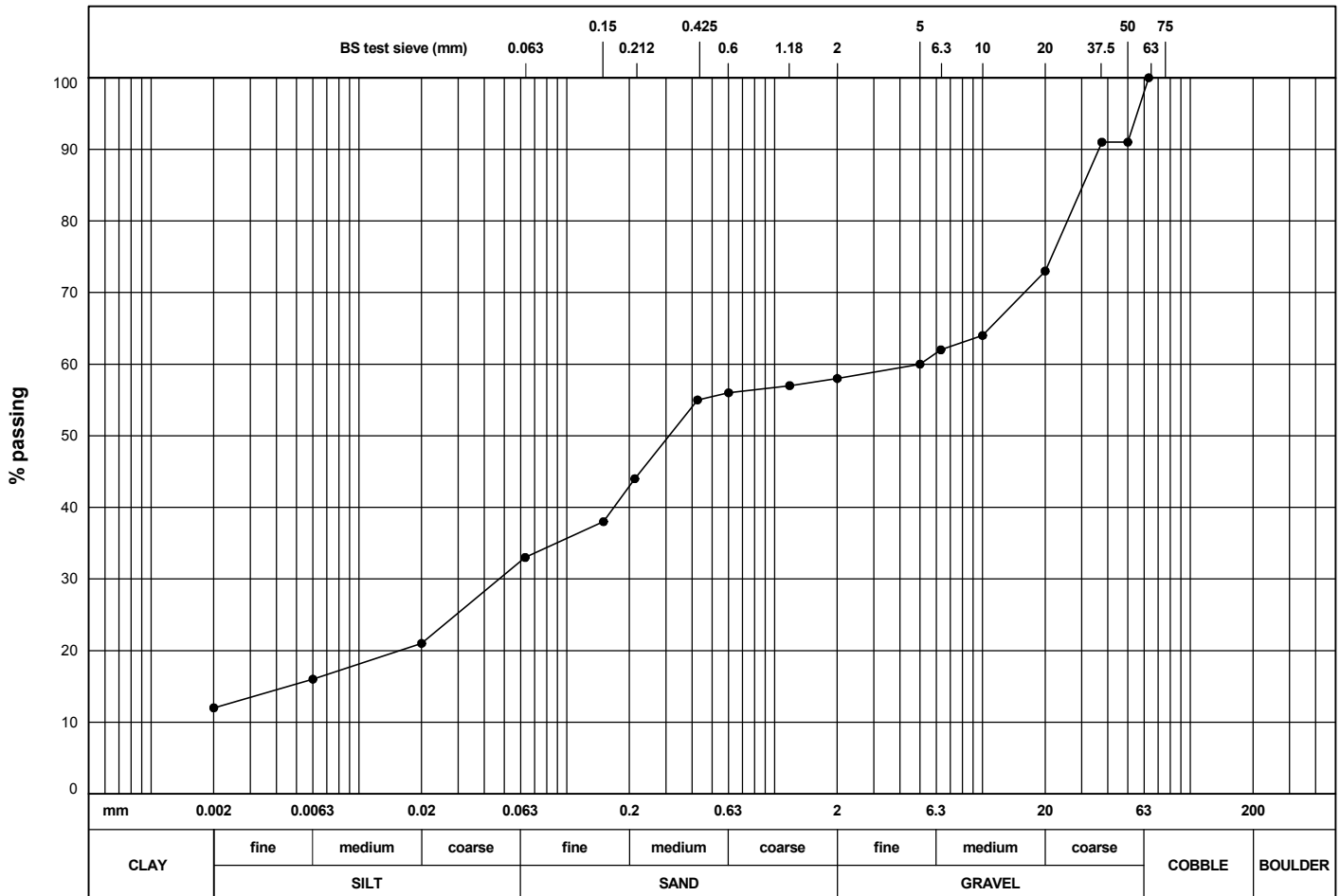
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown silty very sandy GRAVEL

BH/TP No. BH708  
 SAMPLE No./TYPE 5B  
 SAMPLE DEPTH (m) 1.00  
 SPECIMEN DEPTH (m) 1.00



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:04

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	12			5	60	20	21
SILT	21	150		2	58	6	16
SILT & CLAY	33	75		1.18	57	2	12
SAND	25	63	100				
GRAVEL	40			0.6	56		
COBBLE & BOULDER	2			0.425	55		
test method(s)	9.2 & 9.4	50	91	0.212	44		
test method:		37.5	91	0.15	38		
9.2 - wet sieving		20	73	0.063	33		
9.3 - dry sieving		10	64				
9.4 - sedimentation by pipette		6.3	62				
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>



# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

BH/TP No.

BH708

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

SAMPLE No./TYPE

14X

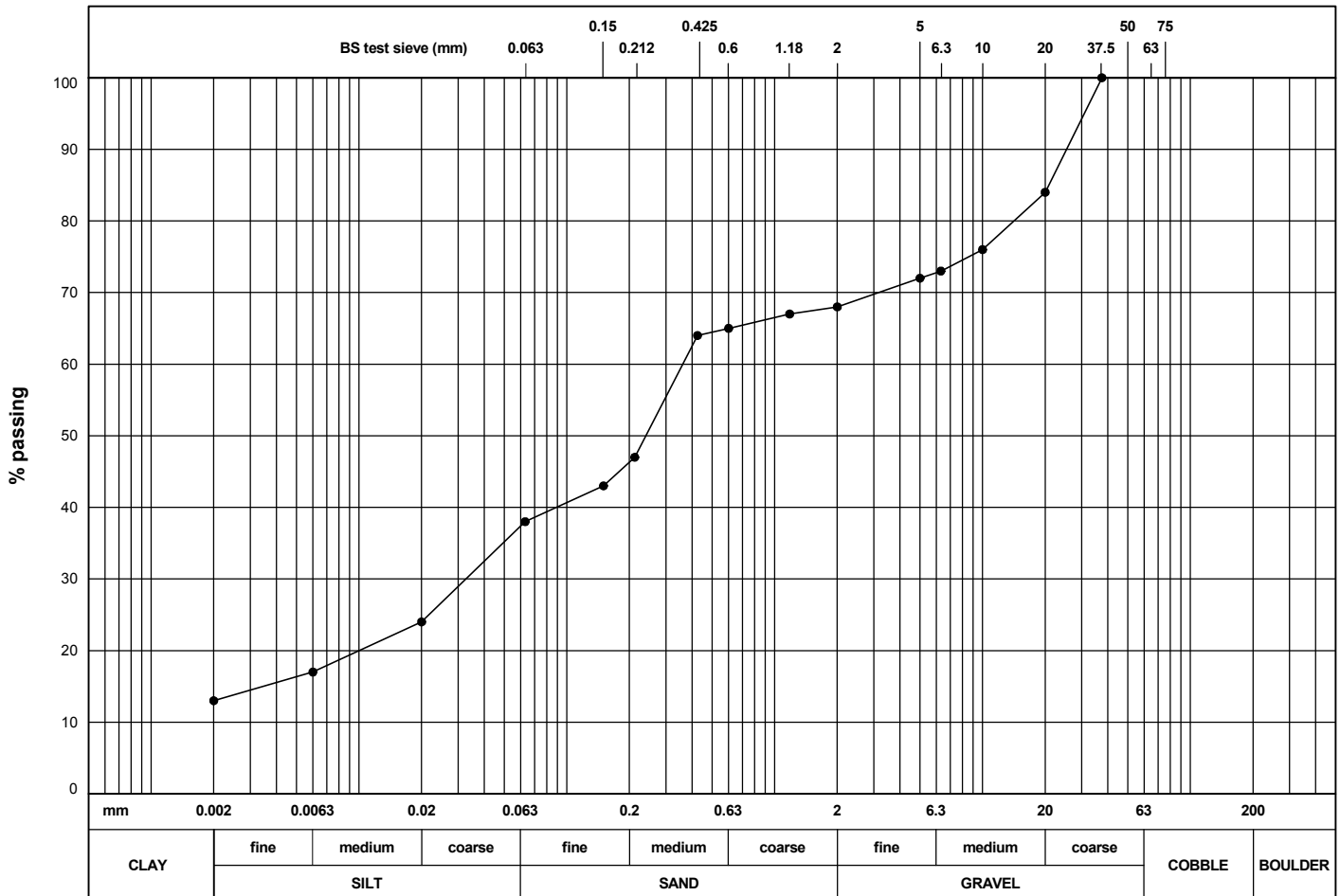
SAMPLE DEPTH (m)

2.20

DESCRIPTION Brownish green slightly sandy slightly gravelly silty CLAY

SPECIMEN DEPTH (m)

2.40



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:05

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	13	150		5	72	20	24
SILT	25	75		2	68	6	17
SILT & CLAY	38	63		1.18	67	2	13
SAND	30	50		0.6	65		
GRAVEL	32	37.5	100	0.425	64		
COBBLE & BOULDER	0	20	84	0.212	47		
test method(s)	9.2 & 9.4	10	76	0.15	43		
test method:		6.3	73	0.063	38		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

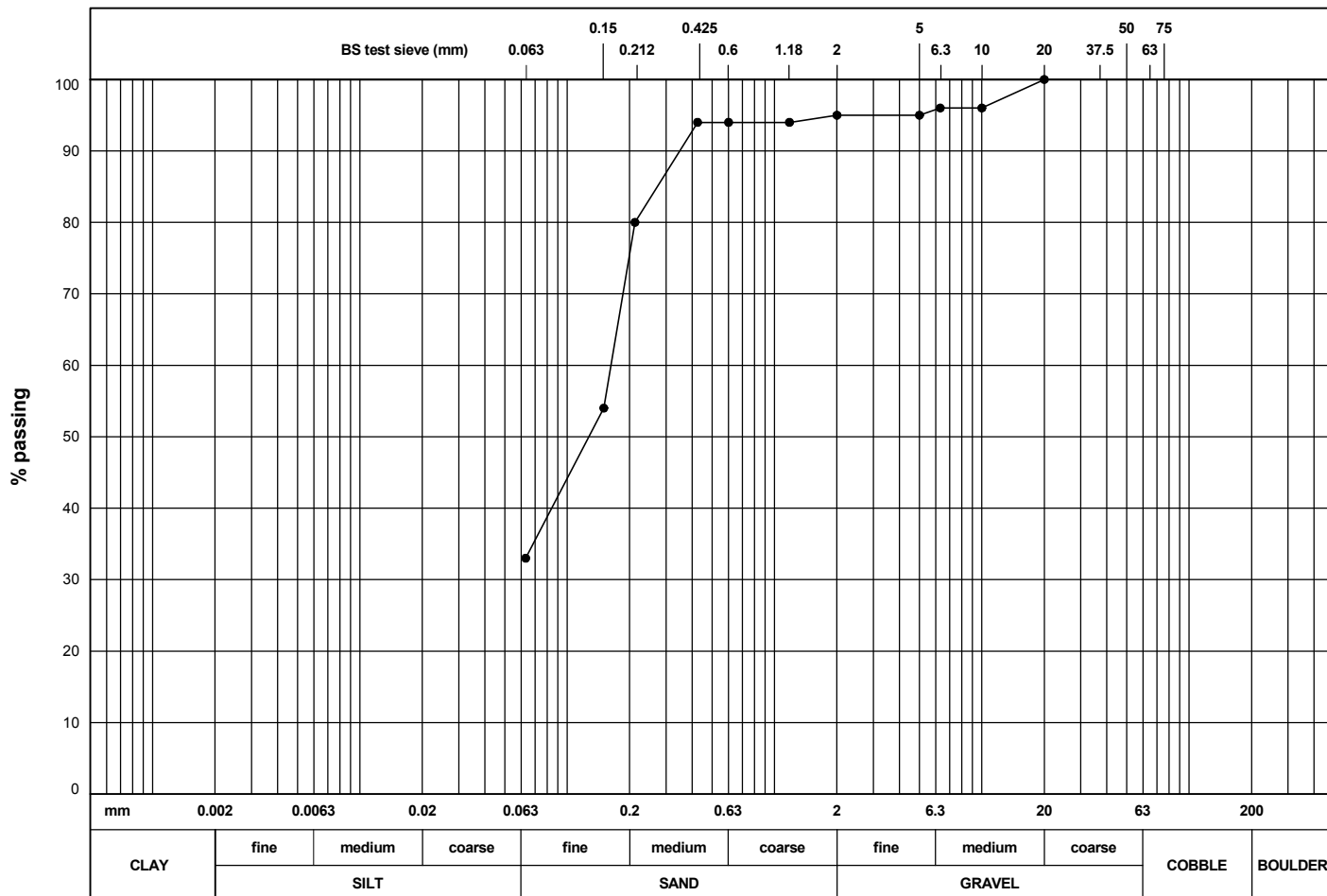
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Light brown very clayey slightly gravelly SAND

BH/TP No. BH708  
 SAMPLE No./TYPE 21X  
 SAMPLE DEPTH (m) 3.20  
 SPECIMEN DEPTH (m) 3.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:05

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY		150		5	95	20	
SILT		75		2	95	6	
SILT & CLAY	33	63		1.18	94	2	
SAND	62	50		0.6	94		
GRAVEL	5	37.5		0.425	94		
COBBLE & BOULDER	0	20	100	0.212	80		
test method(s)	9.2	10	96	0.15	54		
test method:		6.3	96	0.063	33		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

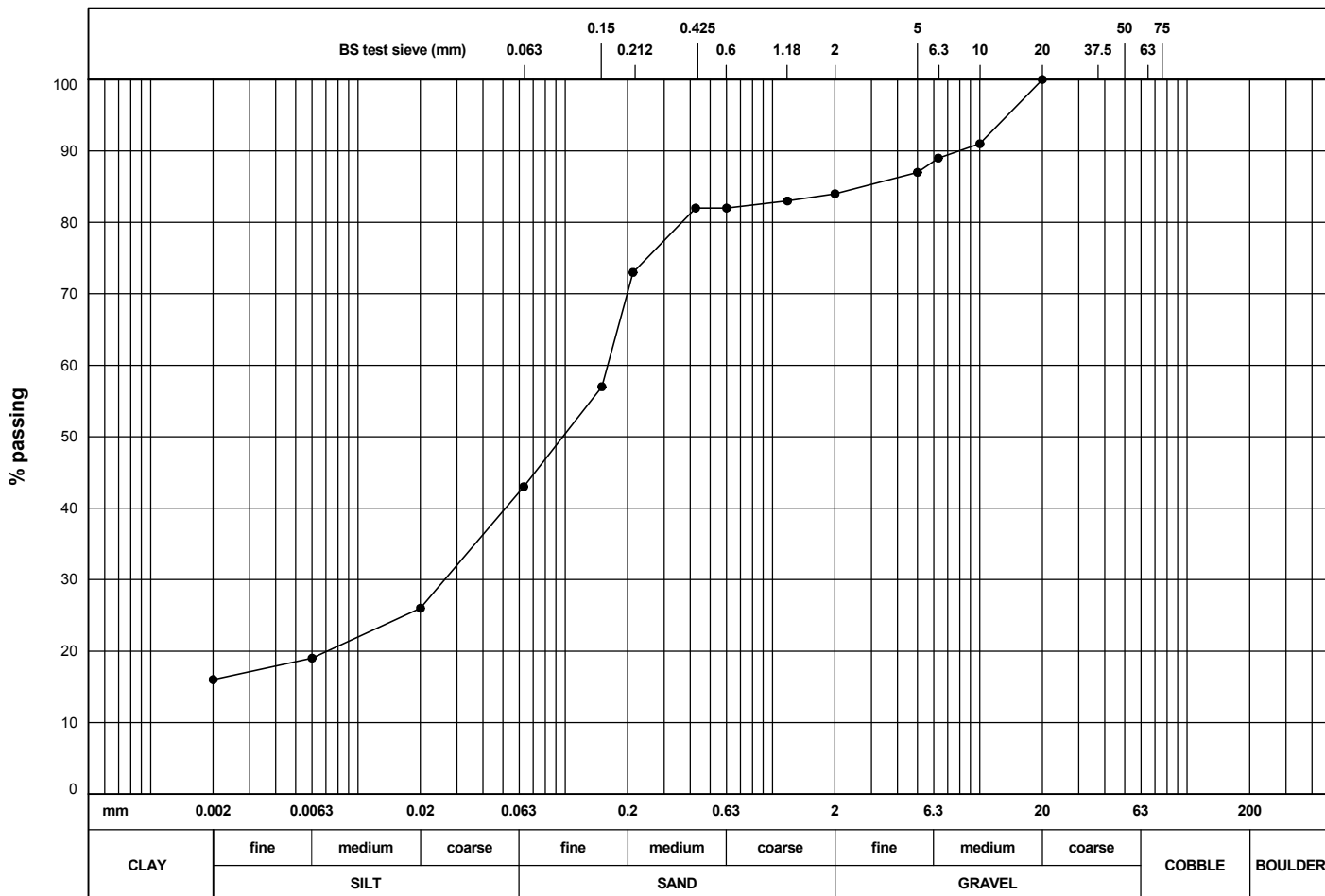
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown sandy slightly gravelly silty CLAY

BH/TP No. BH708  
 SAMPLE No./TYPE 35X  
 SAMPLE DEPTH (m) 6.20  
 SPECIMEN DEPTH (m) 6.60

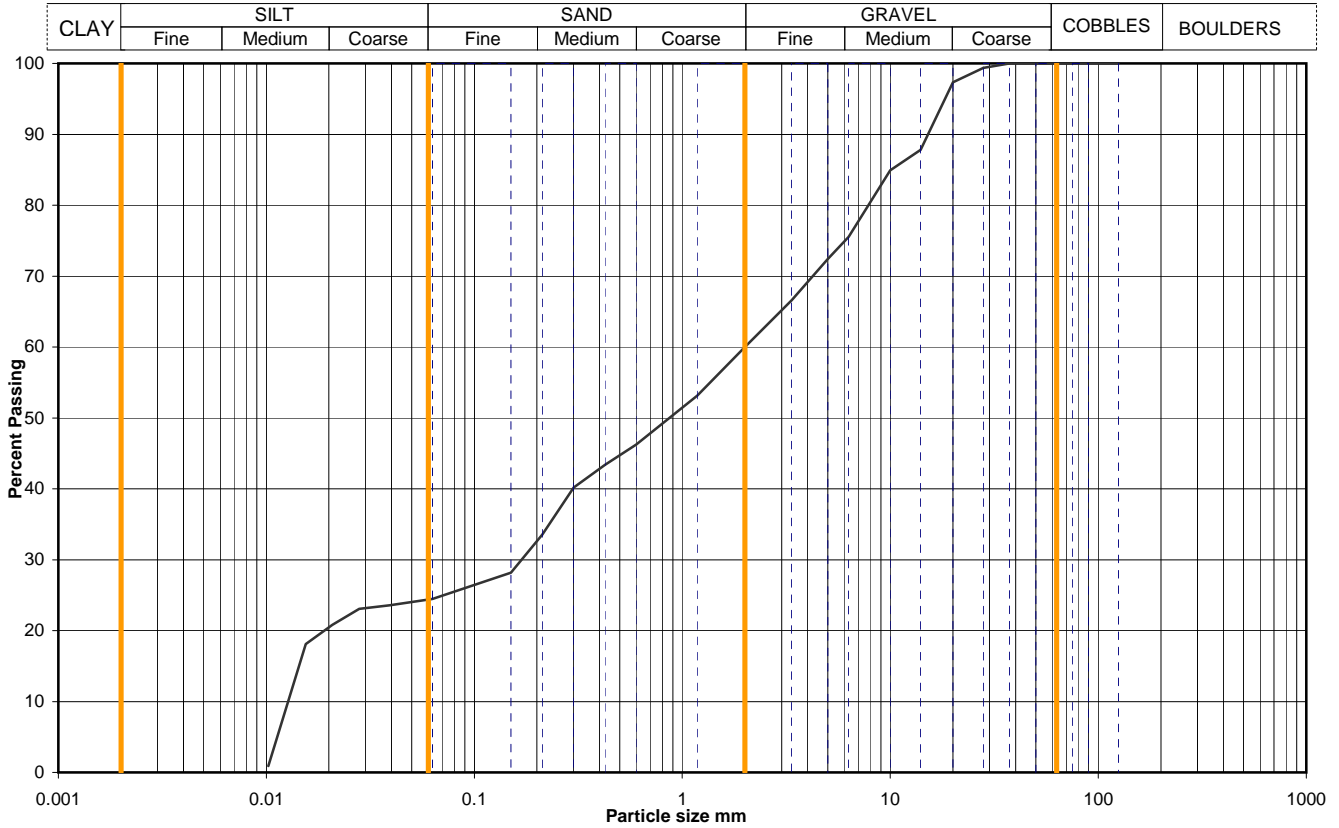


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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	16	150		5	87	20	26
SILT	27	75		2	84	6	19
SILT & CLAY	43	63		1.18	83	2	16
SAND	41	50		0.6	82		
GRAVEL	16	37.5		0.425	82		
COBBLE & BOULDER	0	20	100	0.212	73		
test method(s)	9.2 & 9.4	10	91	0.15	57		
test method:		6.3	89	0.063	43		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	TP201
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	0.50
			Samp No	2
			Type	B
			ID	MASTER3193
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	24
90	100	0.0391	24
75	100	0.0279	23
63	100	0.0207	21
50	100	0.0155	18
37.5	100	0.0102	1
28	99		
20	97		
14	88		
10	85		
6.3	76		
5.0	72		
3.35	67		
2.00	60		
1.18	53		
0.600	46		
0.425	43		
0.300	40		
0.212	34		
0.150	28		
0.063	24		

Particle density, Mg/m <sup>3</sup> 2.65 assumed	Dry mass of sample, kg 10.0
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Soil description	Light brown very sandy very silty GRAVEL.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		40	40
		36	36
		24	24
*<60mm values to aid description only		0	0

Uniformity Coefficient	$D_{60} / D_{10}$	157
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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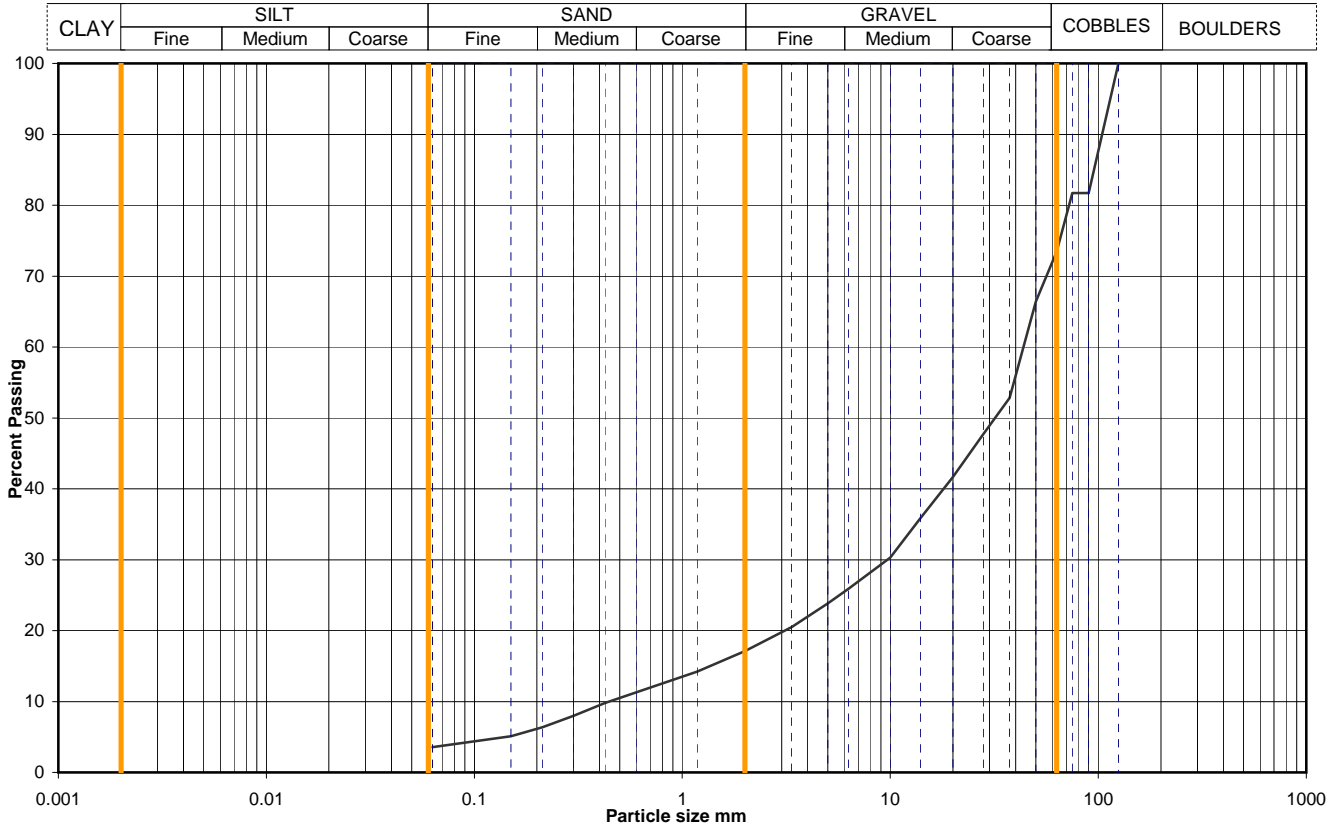


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	TP201		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	7	Type	B
			ID	MASTER3194		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	82		
75	82		
63	73		
50	66		
37.5	53		
28	48		
20	42		
14	36		
10	30		
6.3	26		
5.0	24		
3.35	21		
2.00	17		
1.18	14		
0.600	11		
0.425	10		
0.300	8		
0.212	6		
0.150	5		
0.063	4		
		Dry mass of sample, kg	
		15.1	

Soil description	Brown sandy GRAVEL with six cobbles.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions <small>*&lt;math&gt; &lt; 60\text{mm}&lt;/math&gt; values to aid description only</small>	Cobbles / boulders	Whole	*<math> < 63\text{mm}</math>
		27	0
	Gravel	56	77
	Sand	14	19
	Silt Clay	silt+clay =	
3	4		

Uniformity Coefficient	$D_{60} / D_{10}$	98
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

QA Ref  
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Aug 11

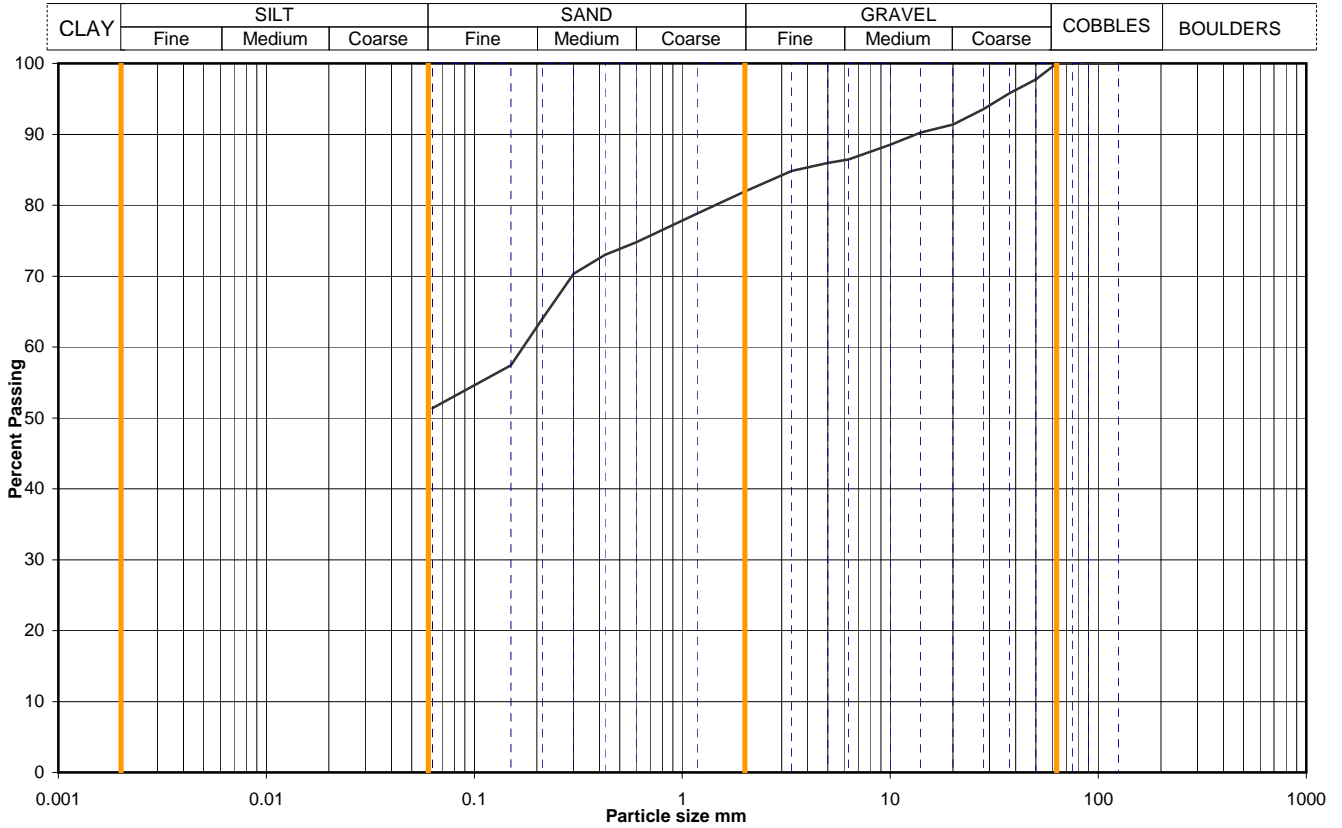


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	TP301
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	0.50
			Samp No	2
			Type	B
			ID	MASTER3399
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	98		
37.5	96		
28	94		
20	91		
14	90		
10	89		
6.3	86		
5.0	86		
3.35	85		
2.00	82		
1.18	79		
0.600	75		
0.425	73		
0.300	70		
0.212	64		
0.150	57		
0.063	51		
		Dry mass of sample, kg	
		20.5	

Soil description	White CHALK composed of slightly sandy slightly gravelly clay.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions <small>*&lt;60mm values to aid description only</small>	Cobbles / boulders	Whole	*<63mm
		0	0
	Gravel	18	18
	Sand	31	31
	Silt Clay	silt+clay =	
		51	51

Uniformity Coefficient	$D_{60} / D_{10}$	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

QA Ref  
SLR 2,9  
Rev 88  
Aug 11



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Figure  
**PSD**

# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

BH/TP No.

TP301

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

SAMPLE No./TYPE

14B

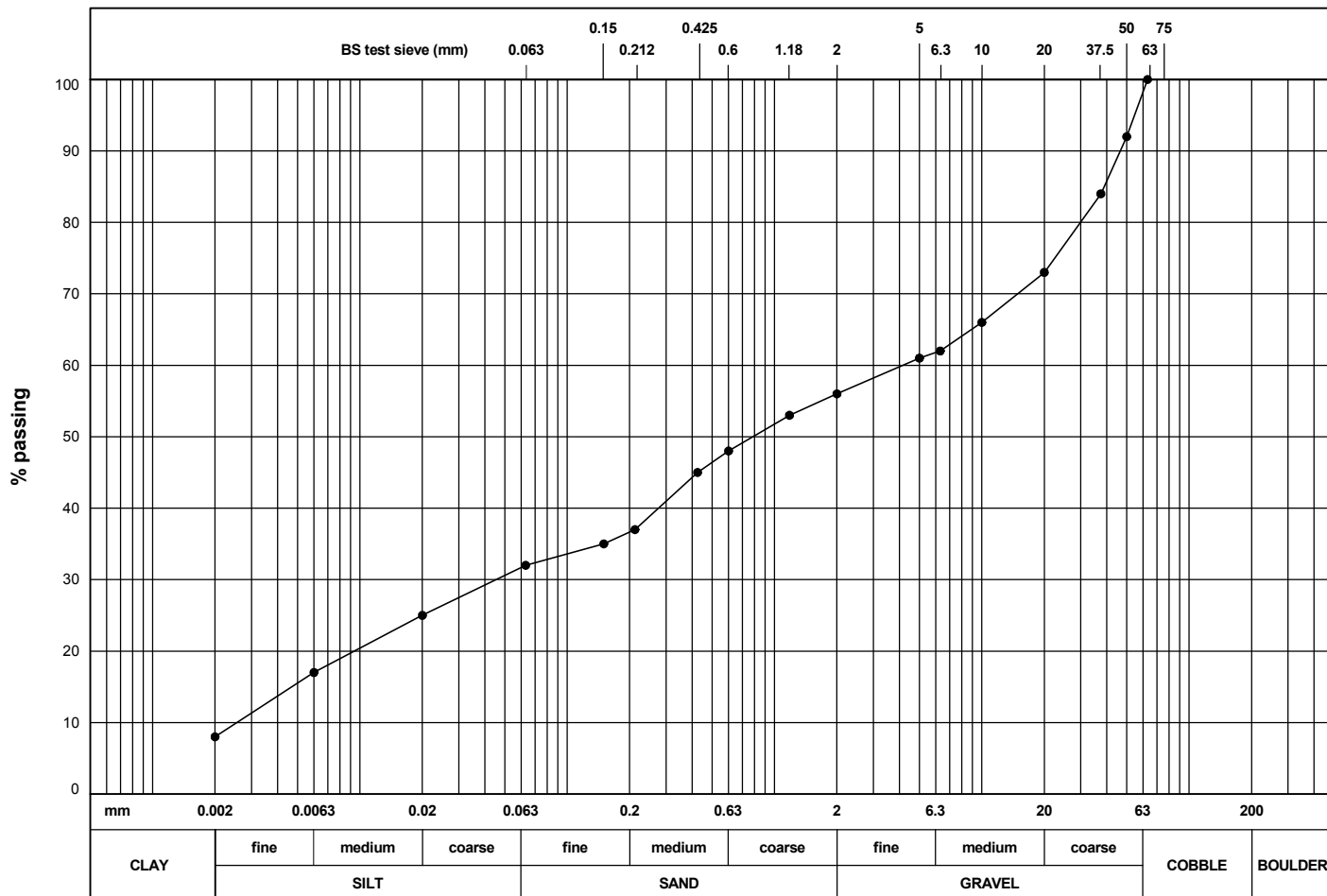
SAMPLE DEPTH (m)

2.40

DESCRIPTION Off white mottled brownish grey silty very sandy GRAVEL

SPECIMEN DEPTH (m)

2.40

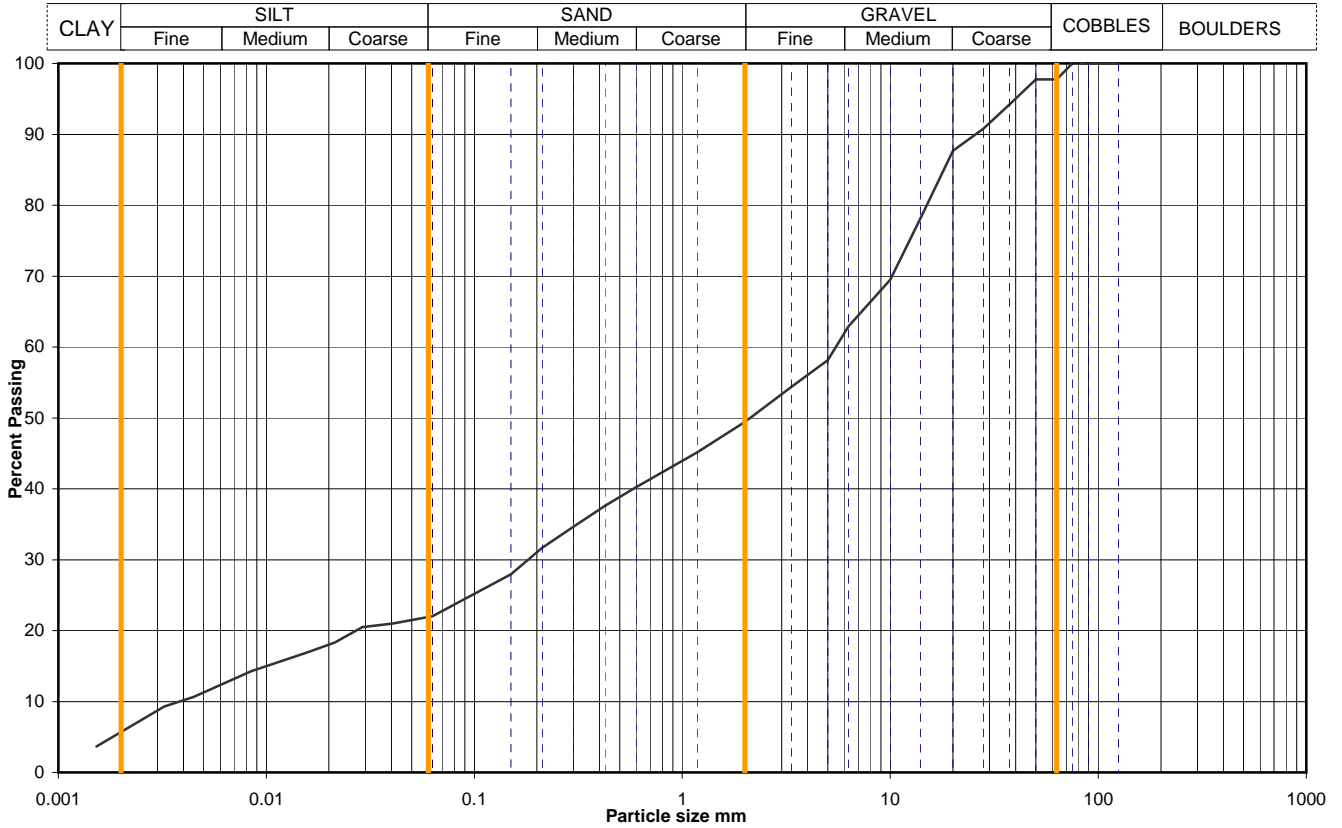


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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	8			5	61	20	25
SILT	24	150		2	56	6	17
SILT & CLAY	32	75		1.18	53	2	8
SAND	24	63	100				
GRAVEL	42						
COBBLE & BOULDER	2						
test method(s)	9.2# & 9.4	50	92	0.6	48		
		37.5	84	0.425	45		
test method:		20	73	0.212	37		
9.2 - wet sieving		10	66	0.15	35		
9.3 - dry sieving		6.3	62	0.063	32		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	TP302
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.50
			Samp No	7
			Type	B
			ID	MASTER3249
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0404	21
75	100	0.0289	20
63	98	0.0214	18
50	98	0.0156	17
37.5	94	0.0084	14
28	91	0.0045	11
20	88	0.0032	9
14	78	0.0015	4
10	69		
6.3	63		
5.0	58		
3.35	54		
2.00	49		
1.18	45		
0.600	40		
0.425	38		
0.300	35		
0.212	32		
0.150	28		
0.063	22		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	14.8

Soil description	Grey very sandy silty GRAVEL.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <63mm
		2	0
		49	50
		28	29
		16	16
		5	5

Uniformity Coefficient	$D_{60} / D_{10}$	1434
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
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Figure  
**PSD**



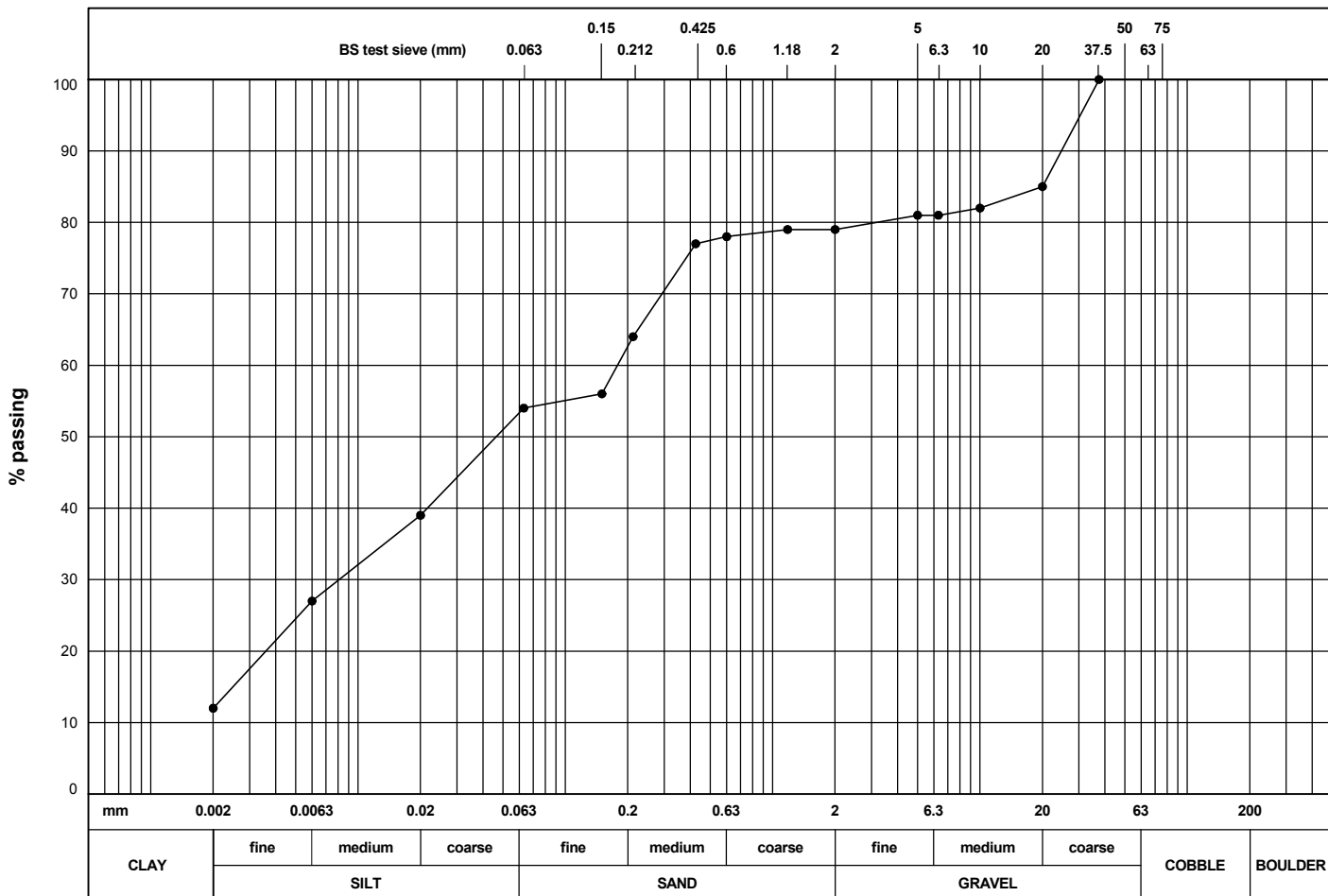
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Off white slightly gravelly slightly sandy SILT

BH/TP No. TP302  
 SAMPLE No./TYPE 19B  
 SAMPLE DEPTH (m) 3.50  
 SPECIMEN DEPTH (m) 3.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 19/10/2015 09:14:02

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	12	150		5	81	20	39
SILT	42	75		2	79	6	27
SILT & CLAY	54	63		1.18	79	2	12
SAND	25	50		0.6	78		
GRAVEL	21	37.5	100	0.425	77		
COBBLE & BOULDER	0	20	85	0.212	64		
test method(s)	9.2#&9.4	10	82	0.15	56		
test method:		6.3	81	0.063	54		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

BH/TP No. TP701

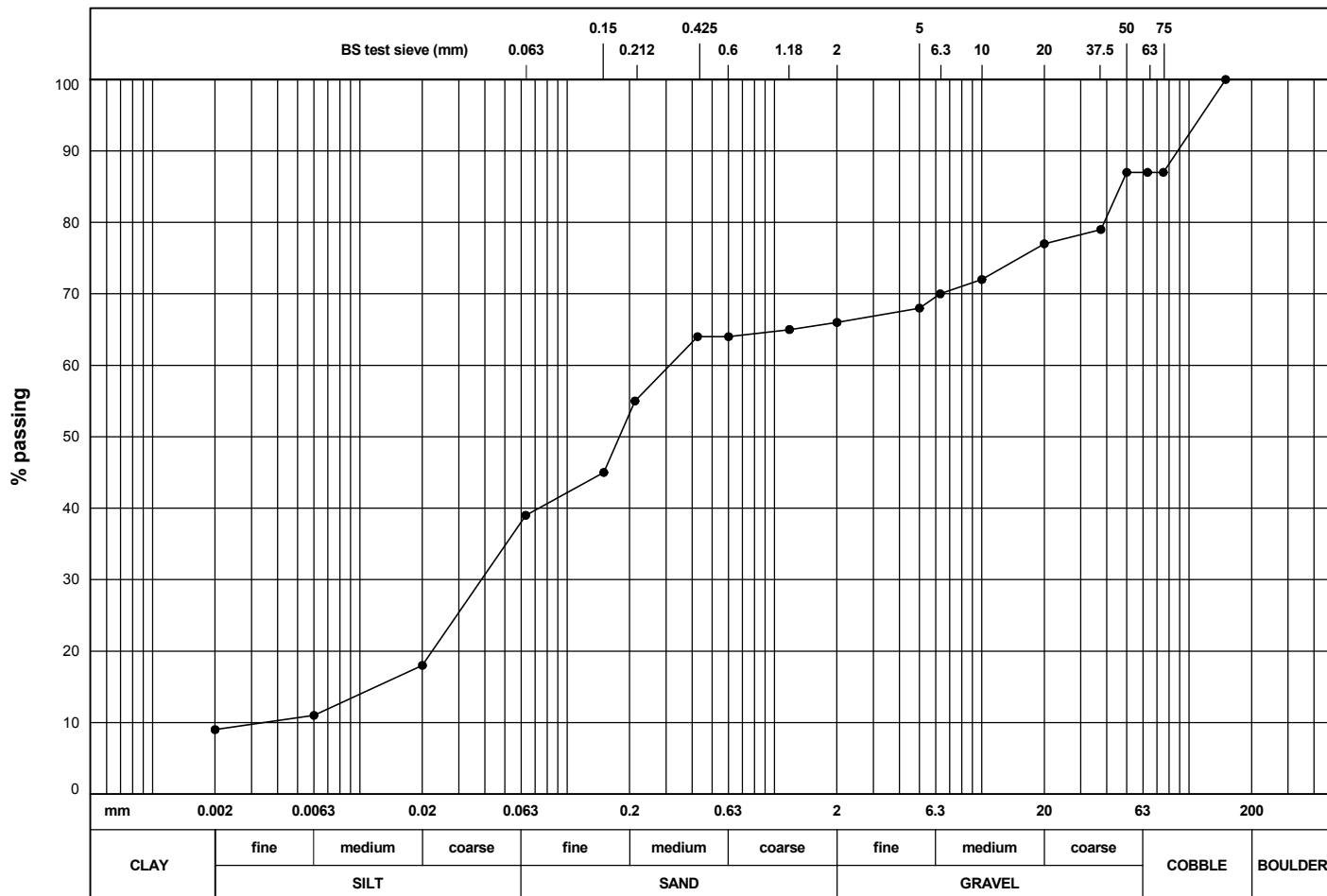
SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

SAMPLE No./TYPE 8B

SAMPLE DEPTH (m) 1.50

DESCRIPTION Brown slightly sandy slightly gravelly SILT with medium cobble content

SPECIMEN DEPTH (m) 1.50



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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	9						
SILT	30	150	100	5	68	20	18
SILT & CLAY	39	75	87	2	66	6	11
SAND	27	63	87	1.18	65	2	9
GRAVEL	21						
COBBLE & BOULDER	13						
test method(s)	9.2 & 9.4	50	87	0.6	64		
		37.5	79	0.425	64		
test method:		20	77	0.212	55		
9.2 - wet sieving		10	72	0.15	45		
9.3 - dry sieving		6.3	70	0.063	39		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

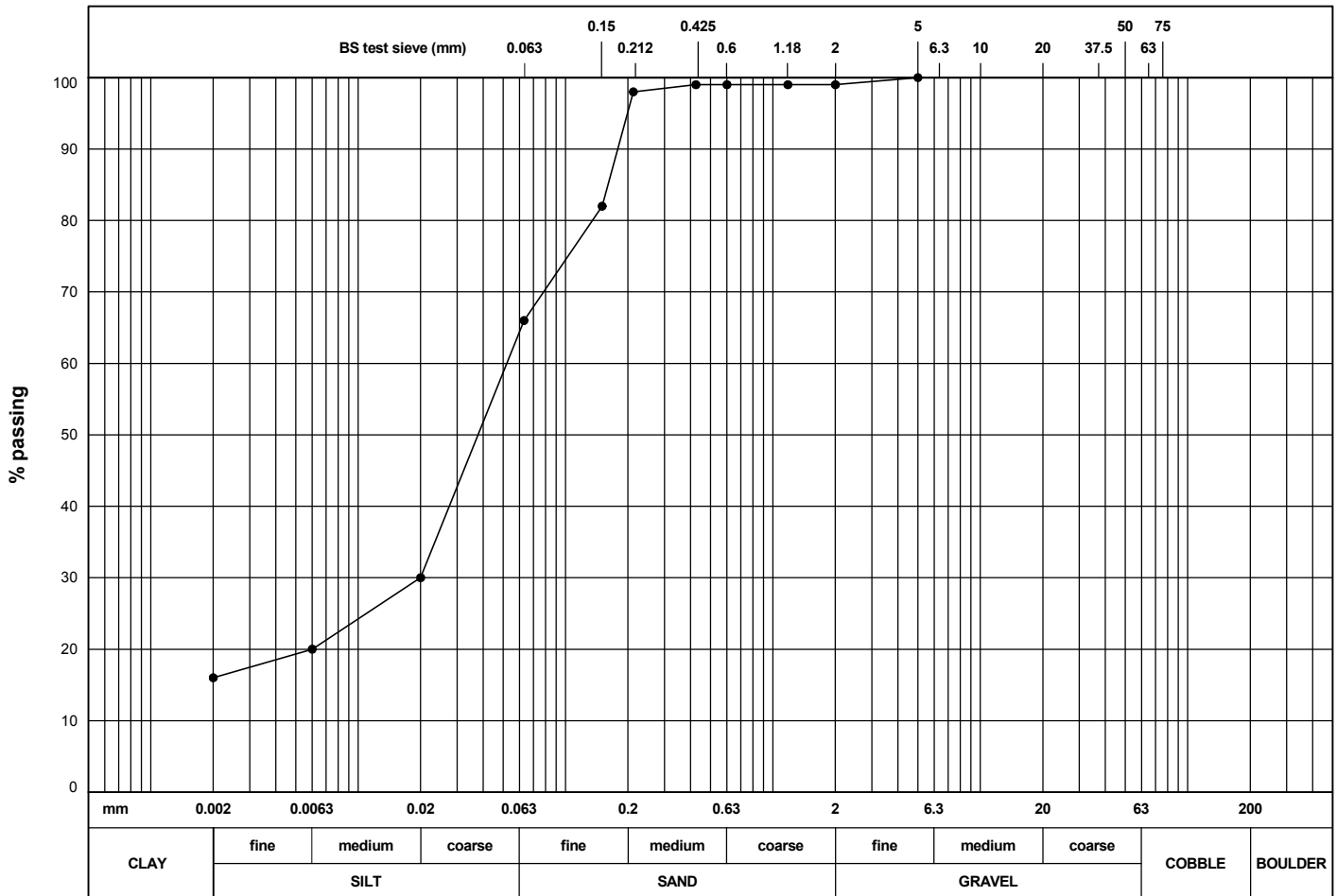
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Light brown slightly sandy slightly gravelly SILT

BH/TP No. TP701  
 SAMPLE No./TYPE 20B  
 SAMPLE DEPTH (m) 3.20  
 SPECIMEN DEPTH (m) 3.20



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:10

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	16			5	100	20	30
SILT	50	150					
SILT & CLAY	66	75		2	99	6	20
SAND	33						
GRAVEL	1	63		1.18	99	2	16
COBBLE & BOULDER	0						
test method(s)	9.2 & 9.4	50		0.6	99		
		37.5		0.425	99		
test method:		20		0.212	98		
9.2 - wet sieving		10		0.15	82		
9.3 - dry sieving		6.3		0.063	66		
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

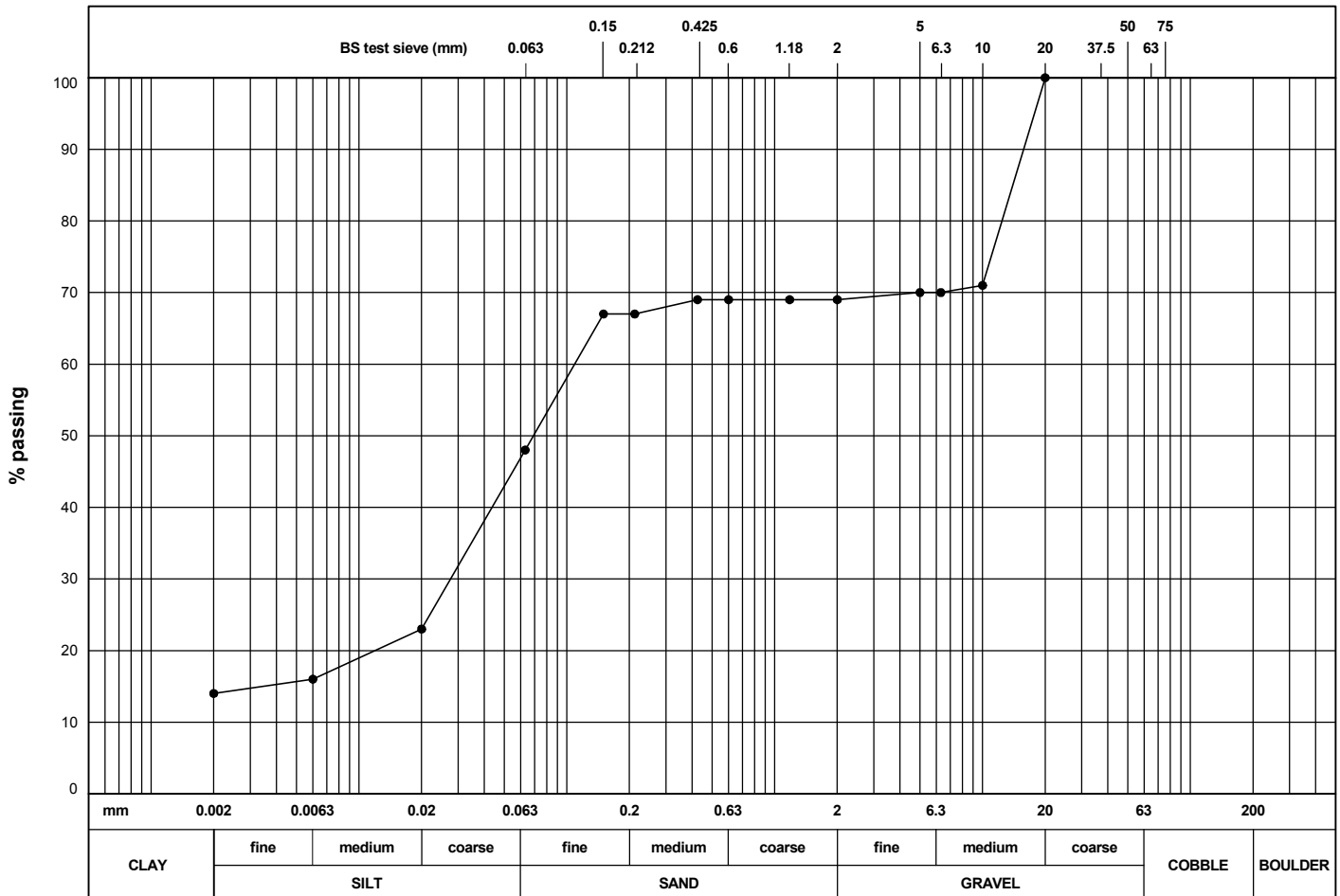
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown slightly sandy slightly gravelly silty CLAY

BH/TP No. TP702  
 SAMPLE No./TYPE 7B  
 SAMPLE DEPTH (m) 1.50  
 SPECIMEN DEPTH (m) 1.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 19/10/2015 09:14:02

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	14	150		5	70	20	23
SILT	34	75		2	69	6	16
SILT & CLAY	48	63		1.18	69	2	14
SAND	21	50		0.6	69		
GRAVEL	31	37.5		0.425	69		
COBBLE & BOULDER	0	20	100	0.212	67		
test method(s)	9.2 & 9.4	10	71	0.15	67		
test method:		6.3	70	0.063	48		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

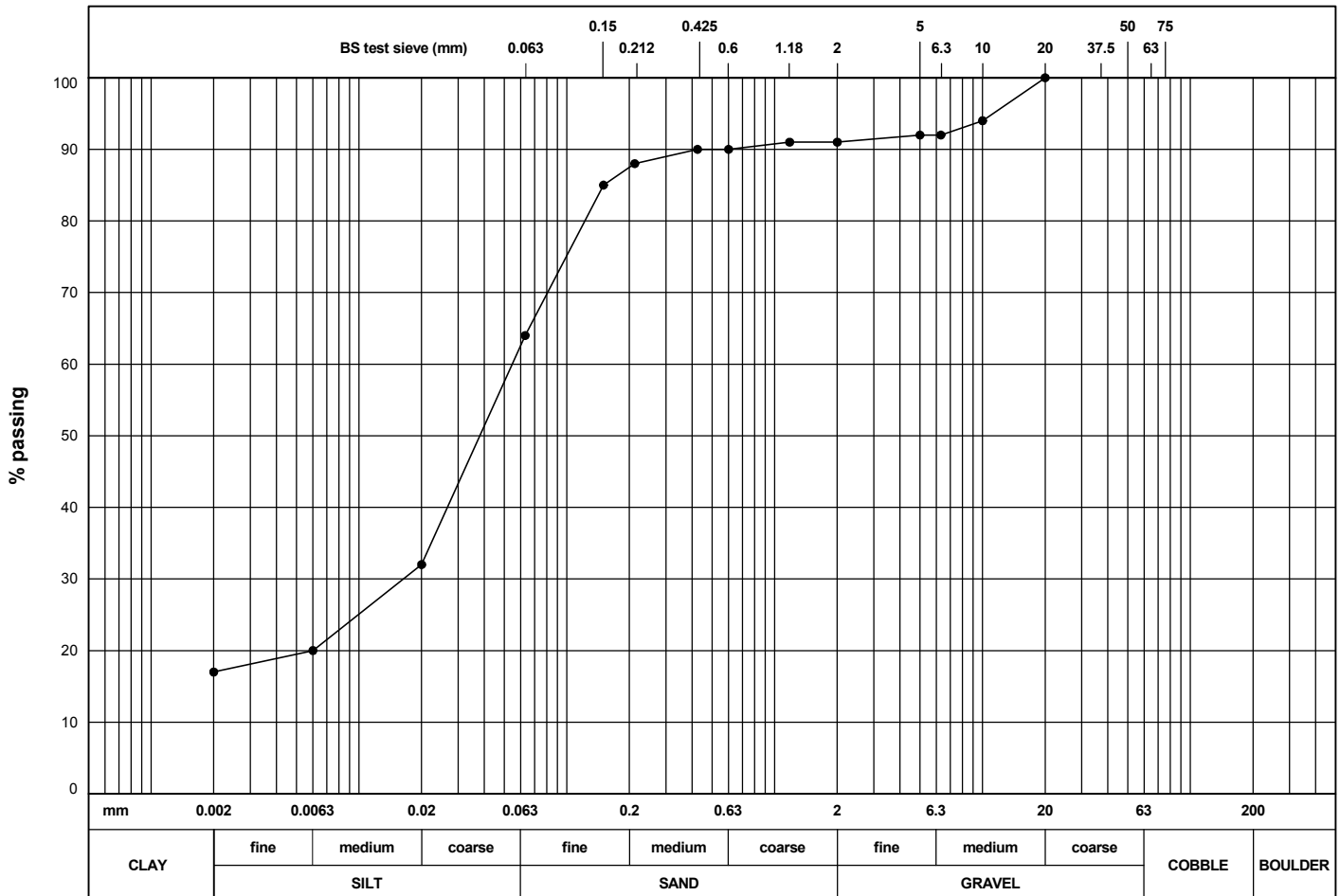
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown slightly gravelly sandy silty CLAY

BH/TP No. TP702  
 SAMPLE No./TYPE 13B  
 SAMPLE DEPTH (m) 2.50  
 SPECIMEN DEPTH (m) 2.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Quevedley, Gloucester. GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:09:12

soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	17	150		5	92	20	32
SILT	47	75		2	91	6	20
SILT & CLAY	64	63		1.18	91	2	17
SAND	27	50		0.6	90		
GRAVEL	9	37.5		0.425	90		
COBBLE & BOULDER	0	20	100	0.212	88		
test method(s)	9.2 & 9.4	10	94	0.15	85		
test method:		6.3	92	0.063	64		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

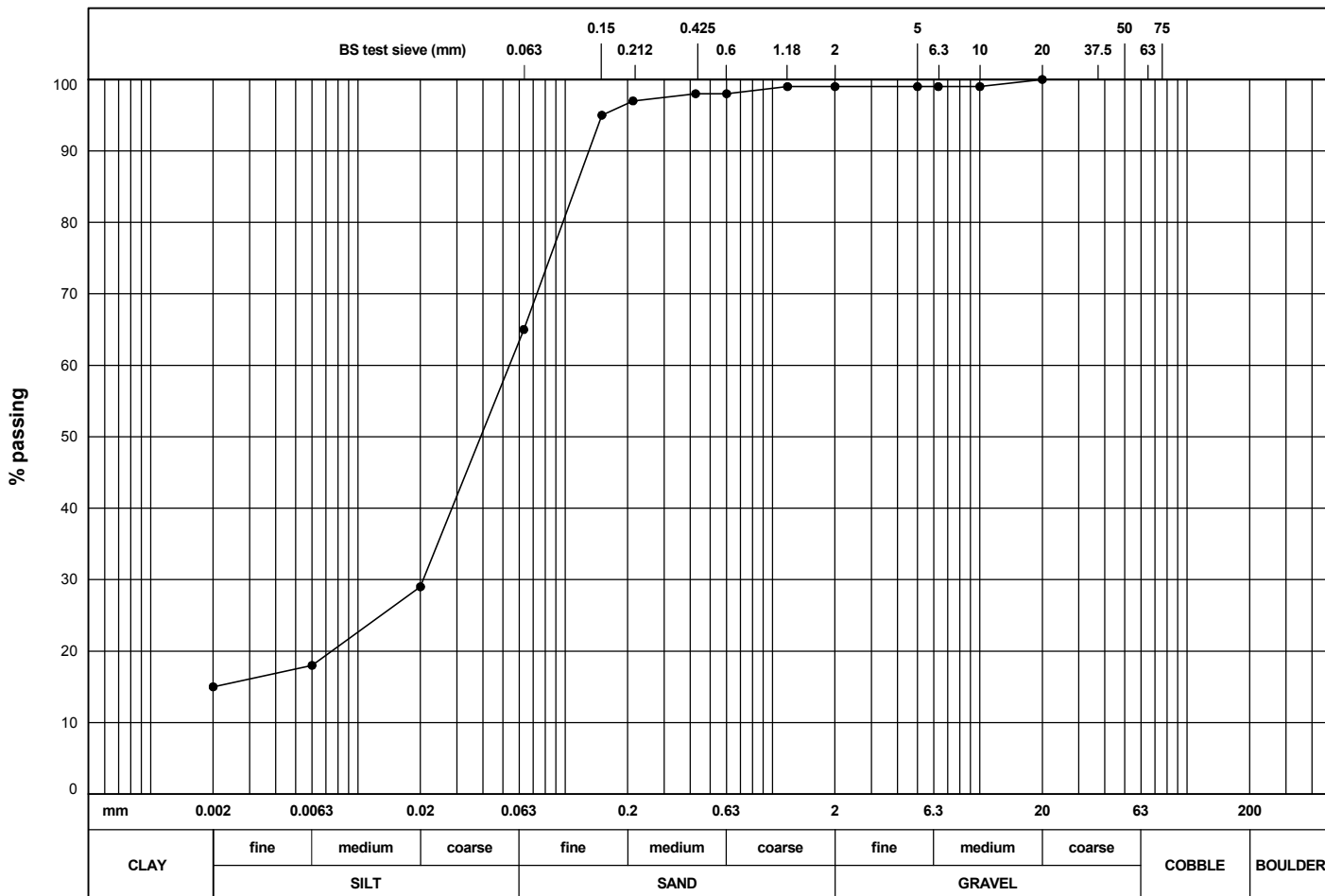
# PARTICLE SIZE DISTRIBUTION



BS.1377 : Part 2 : 1990 : 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown slightly sandy slightly gravelly silty CLAY

BH/TP No. TP702  
 SAMPLE No./TYPE 20B  
 SAMPLE DEPTH (m) 3.40  
 SPECIMEN DEPTH (m) 3.40

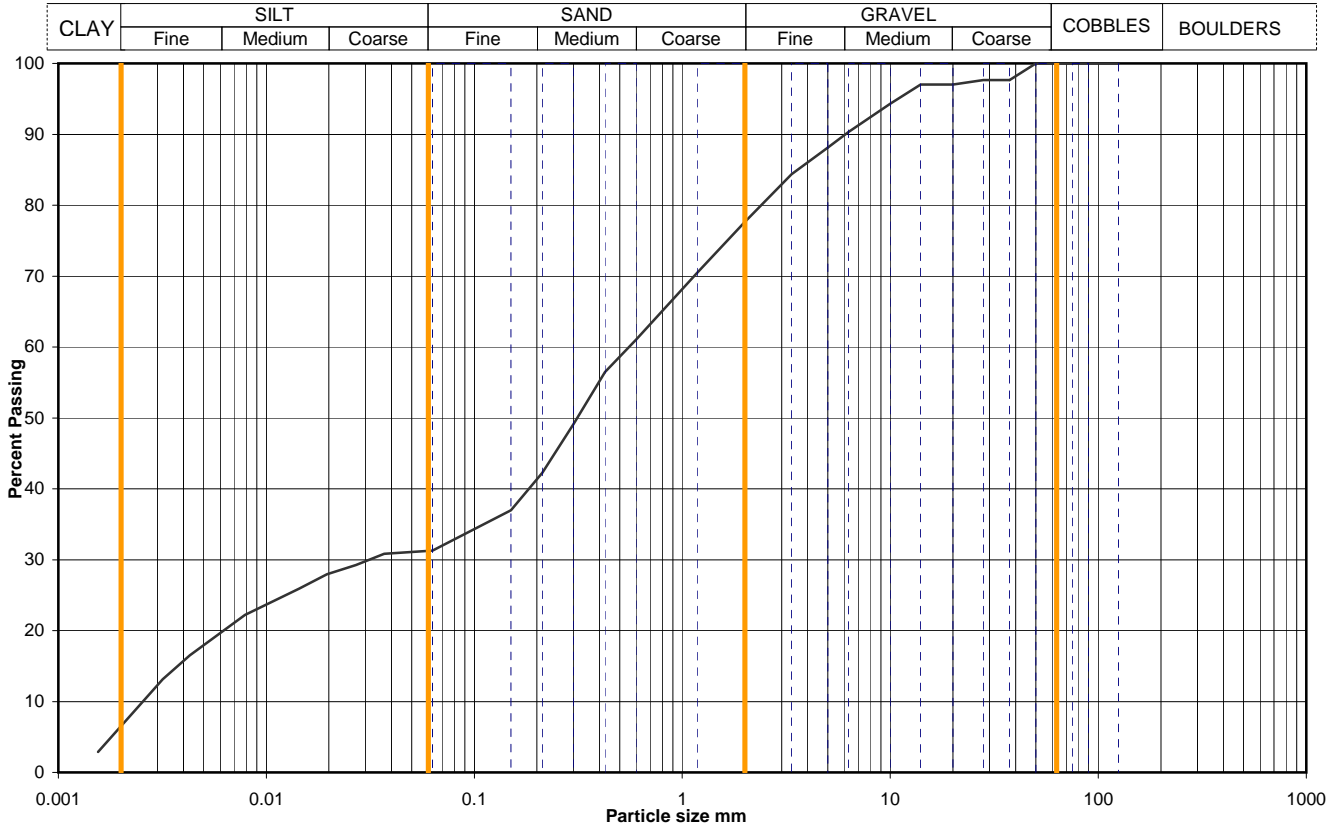


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soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	particle size (µm)	% finer
CLAY	15	150		5	99	20	29
SILT	50	75		2	99	6	18
SILT & CLAY	65	63		1.18	99	2	15
SAND	34	50		0.6	98		
GRAVEL	1	37.5		0.425	98		
COBBLE & BOULDER	0	20	100	0.212	97		
test method(s)	9.2 & 9.4	10	99	0.15	95		
test method:		6.3	99	0.063	65		
9.2 - wet sieving							
9.3 - dry sieving							
9.4 - sedimentation by pipette							
9.5 - sedimentation by hydrometer							
remarks:	# denotes sample tested is smaller than that which is recommended in accordance with BS1377					CONTRACT	CHECKED
						<b>30766</b>	<b>SR</b>

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS101		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	5	Type	B
			ID	MASTER3195		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	31
90	100	0.0369	31
75	100	0.0270	29
63	100	0.0196	28
50	100	0.0144	26
37.5	98	0.0079	22
28	98	0.0043	17
20	97	0.0032	13
14	97	0.0015	3
10	94		
6.3	90		
5.0	88		
3.35	84		
2.00	78		
1.18	70		
0.600	61		
0.425	56		
0.300	49		
0.212	42		
0.150	37		
0.063	31		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	4.6

Soil description	Brown very gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		22	22
		46	46
		25	25
*<60mm values to aid description only		7	7

Uniformity Coefficient	$D_{60} / D_{10}$	218
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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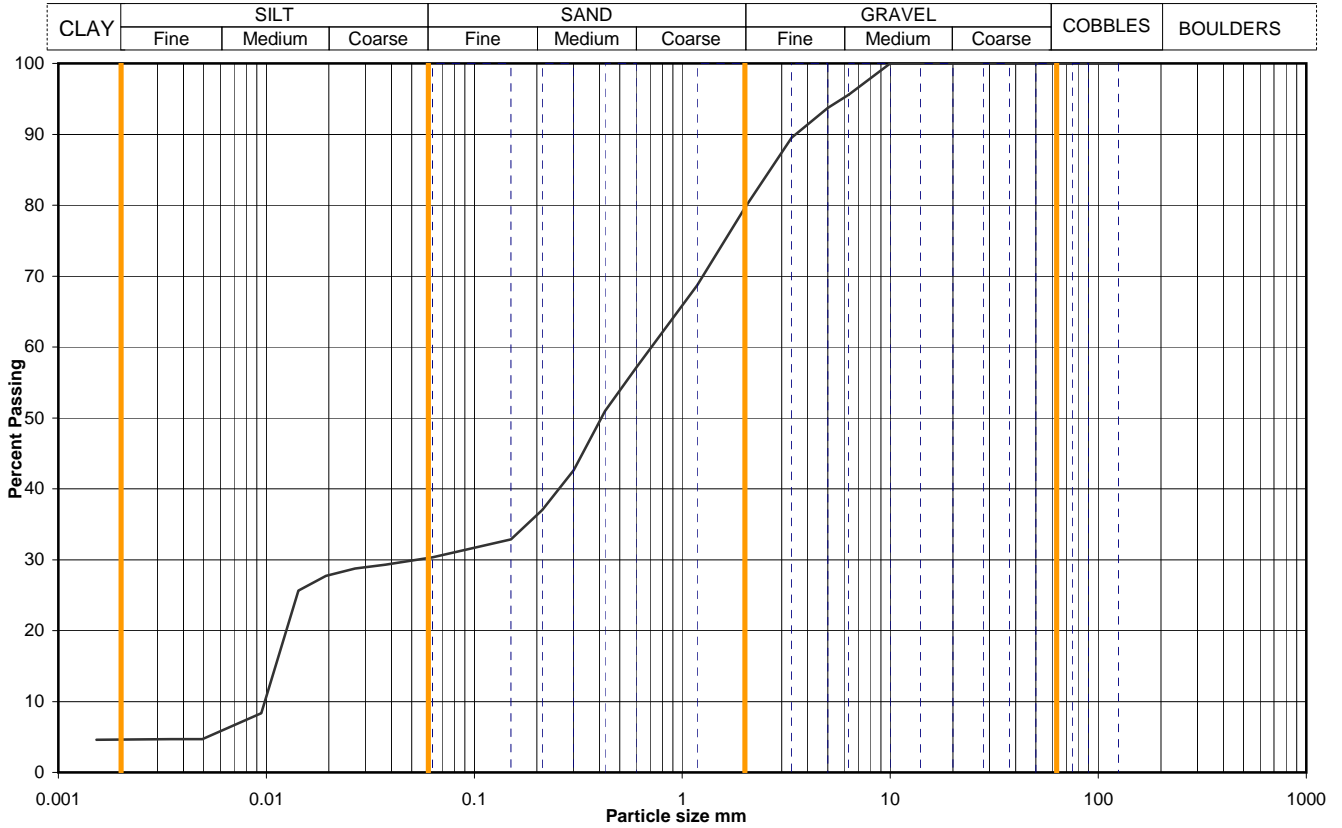


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS101		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.00		
			Samp No	18	Type	X
			ID	MASTER3200		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	30
90	100	0.0374	29
75	100	0.0267	29
63	100	0.0193	28
50	100	0.0142	26
37.5	100	0.0095	8
28	100	0.0049	5
20	100	0.0035	5
14	100	0.0015	5
10	100		
6.3	96		
5.0	94		
3.35	90		
2.00	80		
1.18	69		
0.600	57		
0.425	51		
0.300	43		
0.212	37		
0.150	33		
0.063	30		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	3.6

Soil description	Brown slightly gravelly sandy SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
<b>Sample Proportions</b> <small>*&lt;math&gt;60\text{mm}&lt;/math&gt; values to aid description only</small>	Cobbles / boulders	Whole	*<math>63\text{mm}</math>
	Gravel	0	0
	Sand	20	20
	Silt	49	49
	Clay	26	26
	5	5	5

<b>Uniformity Coefficient</b>	<b><math>D_{60} / D_{10}</math></b>	72
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<b>Test Method</b>	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

**QA Ref**  
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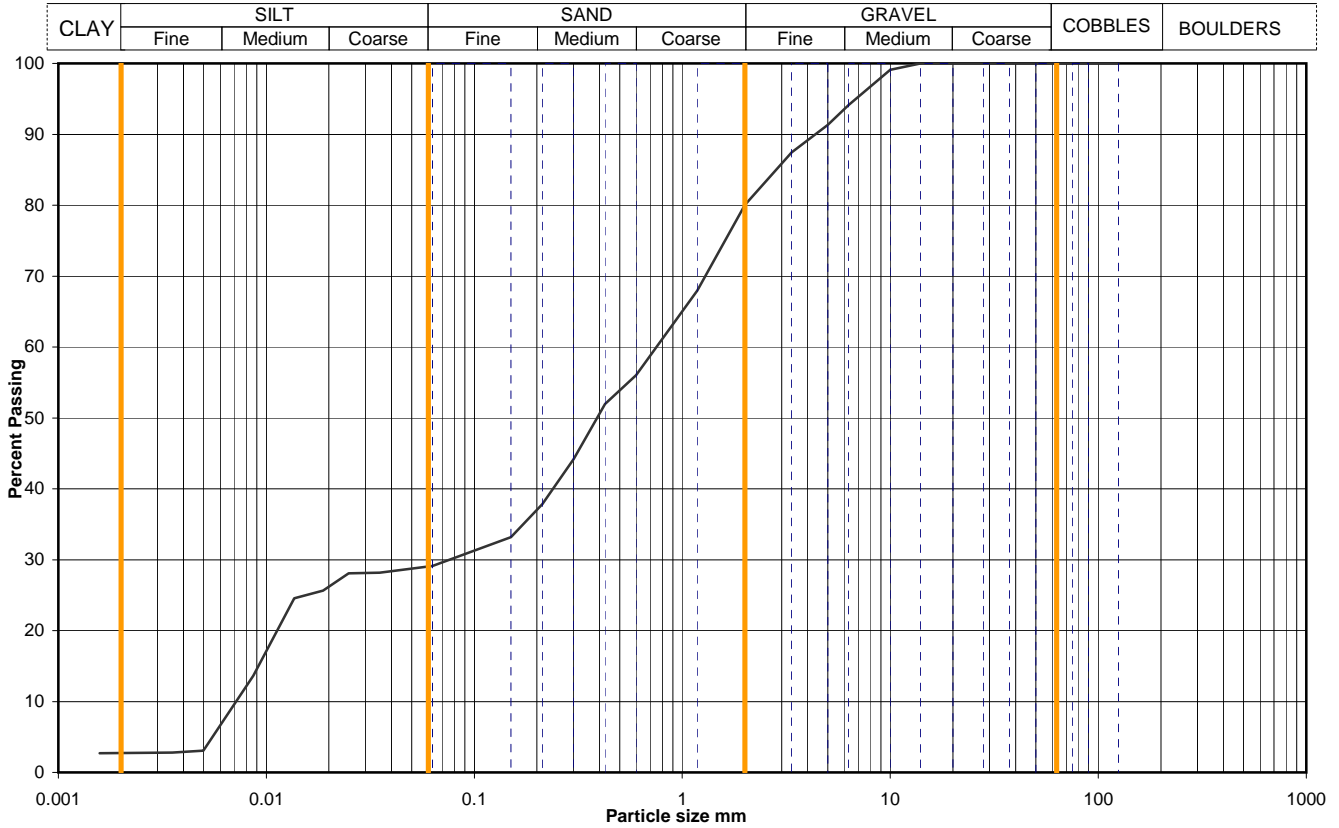
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**Figure**  
**PSD**



# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS101
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	4.00
			Samp No	25
			Type	X
			ID	MASTER3202
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	29
90	100	0.0351	28
75	100	0.0249	28
63	100	0.0188	26
50	100	0.0136	25
37.5	100	0.0086	14
28	100	0.0050	3
20	100	0.0035	3
14	100	0.0016	3
10	99		
6.3	94		
5.0	91		
3.35	87		
2.00	80		
1.18	68		
0.600	56	Particle density, Mg/m <sup>3</sup>	
0.425	52	2.65 assumed	
0.300	44	Dry mass of sample, kg	
0.212	38	0.9	
0.150	33		
0.063	29		

Soil description	Brown slightly gravelly sandy SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		20	20
		51	51
		26	26
*<60mm values to aid description only		3	3

Uniformity Coefficient	$D_{60} / D_{10}$	105
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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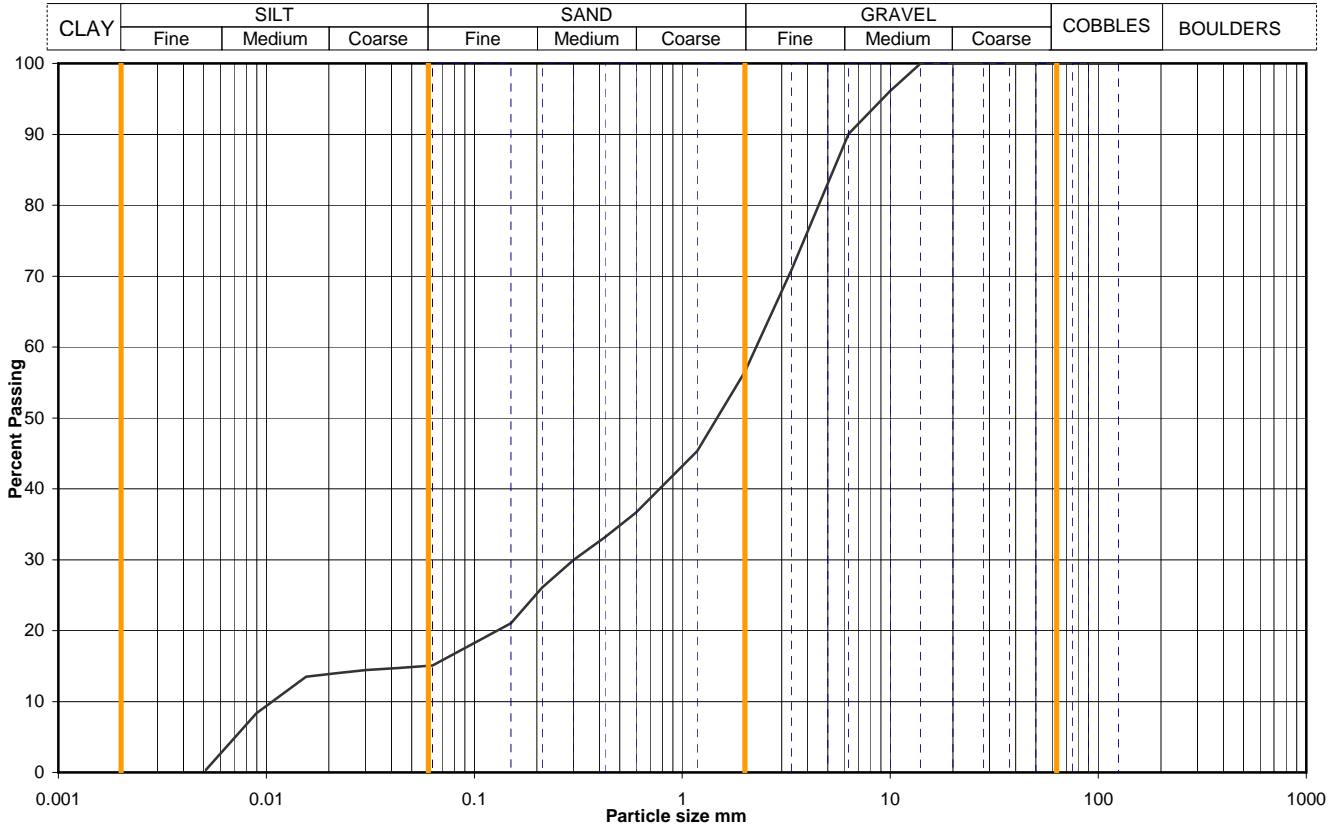


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS102		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	5	Type	B
			ID	MASTER3252		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	15
90	100	0.0426	15
75	100	0.0304	14
63	100	0.0217	14
50	100	0.0155	14
37.5	100	0.0090	8
28	100	0.0051	0
20	100		
14	100		
10	96		
6.3	90		
5.0	83		
3.35	71		
2.00	57		
1.18	45		
0.600	37		
0.425	33		
0.300	30		
0.212	26		
0.150	21		
0.063	15		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	2.5

Soil description	Brown silty SAND AND GRAVEL.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		43	43
		42	42
		15	15
*<60mm values to aid description only		0	0

Uniformity Coefficient	$D_{60} / D_{10}$	212
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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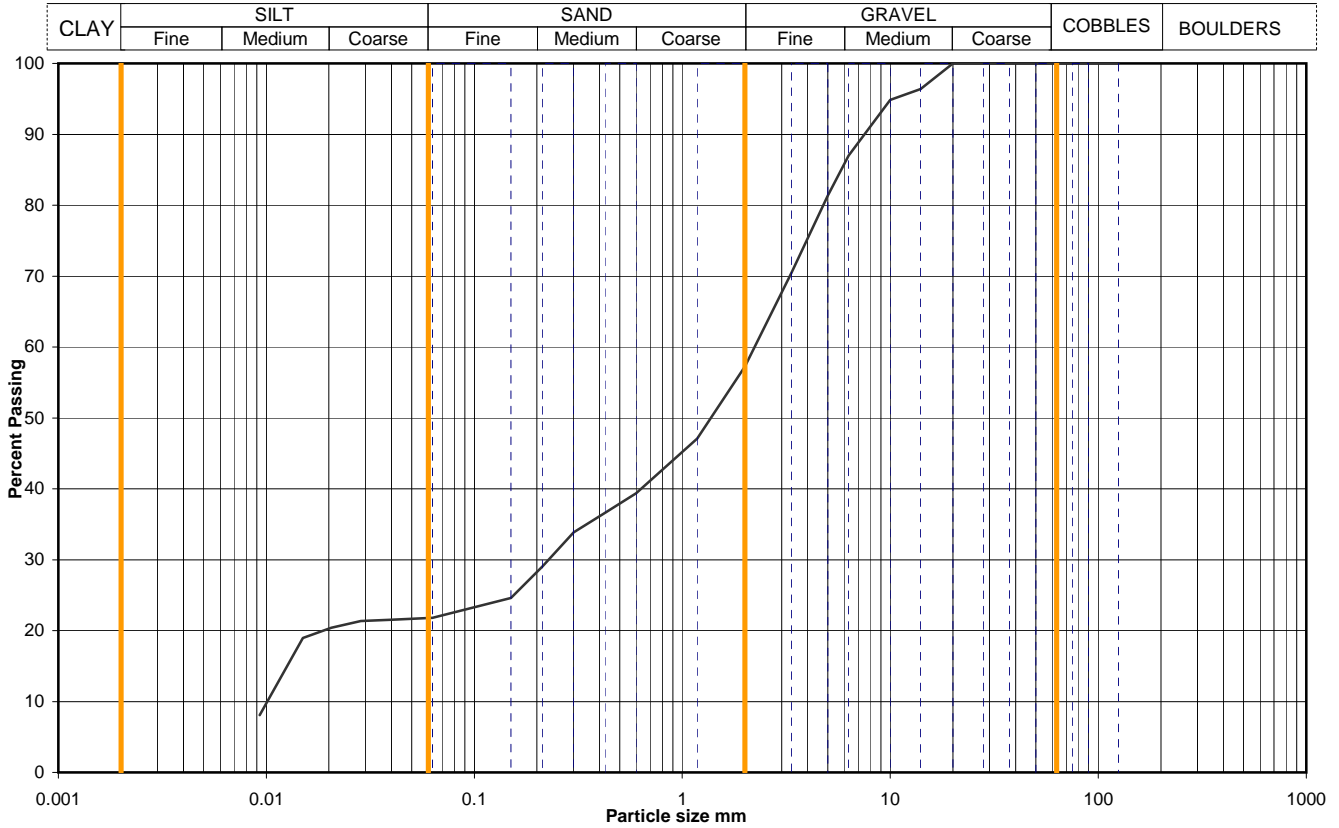


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS102
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	2.00
			Samp No	13
			Type	X
			ID	MASTER3255
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0400	22
75	100	0.0284	21
63	100	0.0205	20
50	100	0.0150	19
37.5	100	0.0093	8
28	100		
20	100		
14	96		
10	95		
6.3	87		
5.0	81		
3.35	71		
2.00	57		
1.18	47		
0.600	39		
0.425	37		
0.300	34		
0.212	29		
0.150	25		
0.063	22		

Particle density, Mg/m <sup>3</sup> 2.65 assumed	Dry mass of sample, kg 3.6
---	-------------------------------

Soil description	Grey sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		43	43
		35	35
		22	22
		0	0

\*<60mm values to aid description only

Uniformity Coefficient	$D_{60} / D_{10}$	220
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
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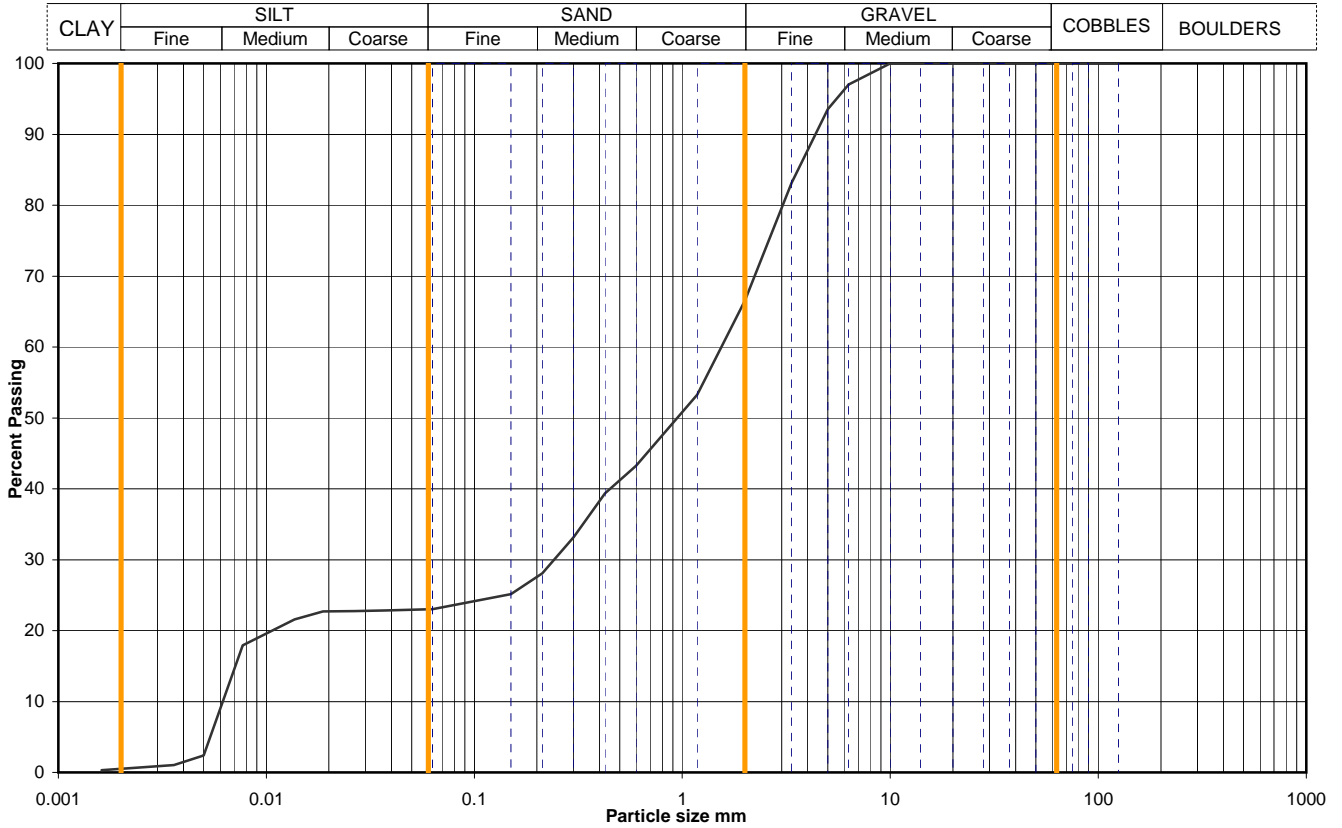


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS102		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.00		
			Samp No	19	Type	X
			ID	MASTER3257		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	23
90	100	0.0373	23
75	100	0.0265	23
63	100	0.0188	23
50	100	0.0137	22
37.5	100	0.0077	18
28	100	0.0050	2
20	100	0.0036	1
14	100	0.0016	0
10	100		
6.3	97		
5.0	94		
3.35	83		
2.00	67		
1.18	53		
0.600	43		
0.425	39		
0.300	33		
0.212	28		
0.150	25		
0.063	23		

Particle density, Mg/m <sup>3</sup> 2.65 assumed	Dry mass of sample, kg 2.9
---	-------------------------------

Soil description	Light brown slightly gravelly sandy SILT.		
Preparation / Pretreatment	Sieve: natural material    Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <63mm
		0	0
		33	33
		44	44
		22	22
* <60mm values to aid description only		1	1

<b>Uniformity Coefficient</b>	<b>D<sub>60</sub> / D<sub>10</sub></b>	250
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<b>Test Method</b>	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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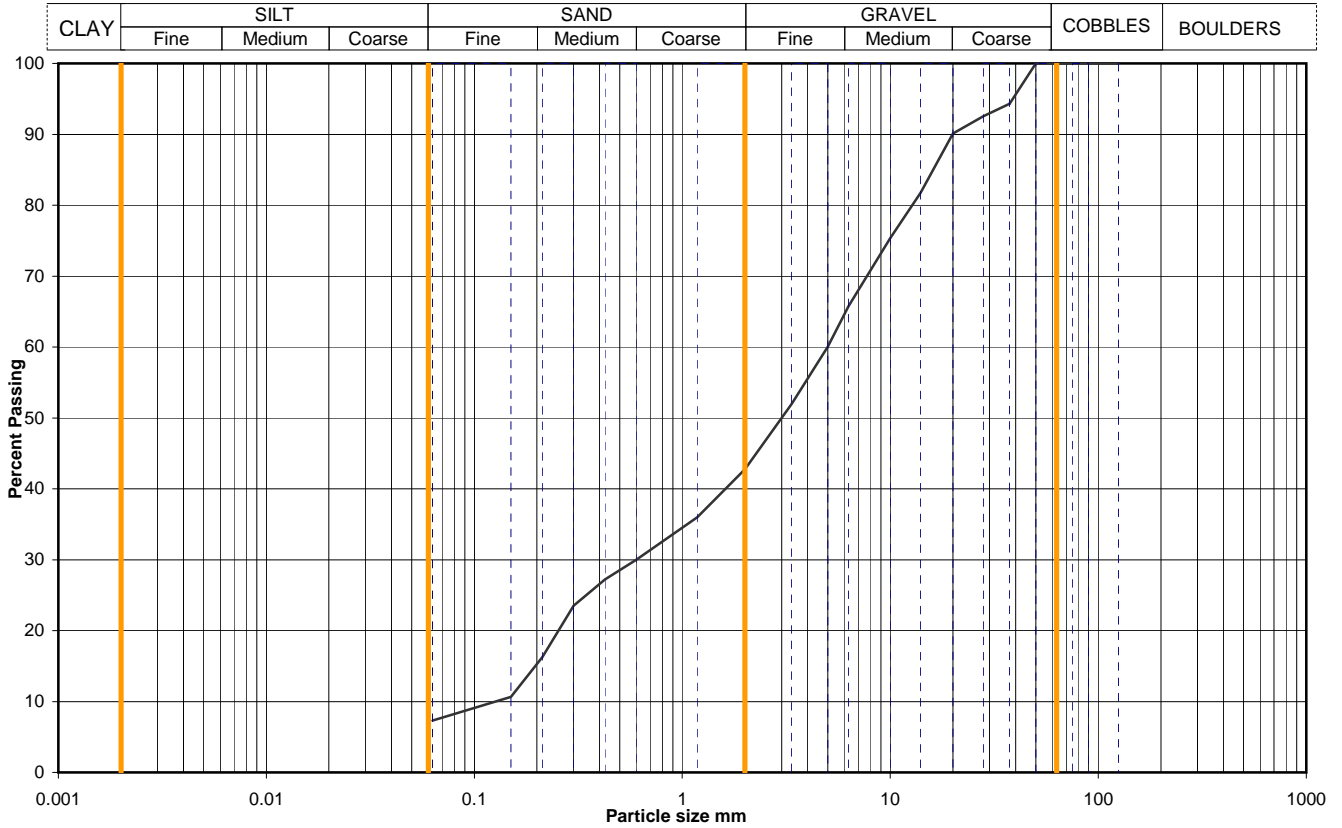


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS202		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	5	Type	B
			ID	MASTER3261		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	93		
20	90		
14	82		
10	75		
6.3	66		
5.0	60		
3.35	52		
2.00	43		
1.18	36		
0.600	30		
0.425	27		
0.300	24		
0.212	16		
0.150	11		
0.063	7		
		Dry mass of sample, kg	
		2.0	

Soil description	Brown very sandy silty GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	* < 63mm
		0	0
		57	57
		35	35
		silt+clay =	8

<b>Uniformity Coefficient</b>	<b>D<sub>60</sub> / D<sub>10</sub></b>	39
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<b>Test Method</b>	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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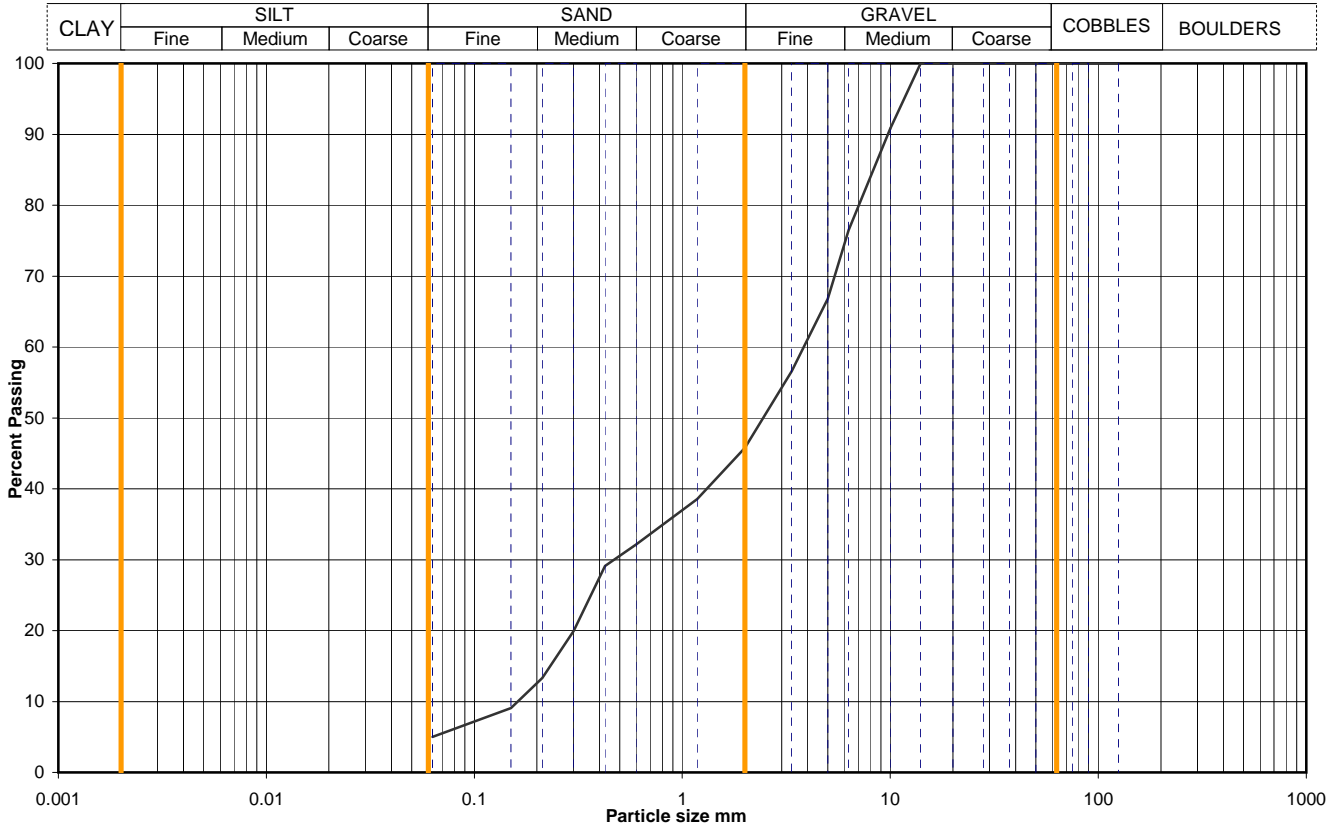


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**Figure**  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS202		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.40		
			Samp No	18	Type	X
			ID	MASTER3265		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	91		
6.3	76		
5.0	67		
3.35	57		
2.00	46		
1.18	39		
0.600	32		
0.425	29		
0.300	20		
0.212	13		
0.150	9		
0.063	5		
		Dry mass of sample, kg	
		0.7	

Soil description	Grey sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions <small>*&lt;60mm values to aid description only</small>	Cobbles / boulders	Whole	*<63mm
	Gravel	0	0
	Sand	54	54
	Silt	41	41
	Clay	silt+clay =	
		5	5

Uniformity Coefficient	$D_{60} / D_{10}$	24
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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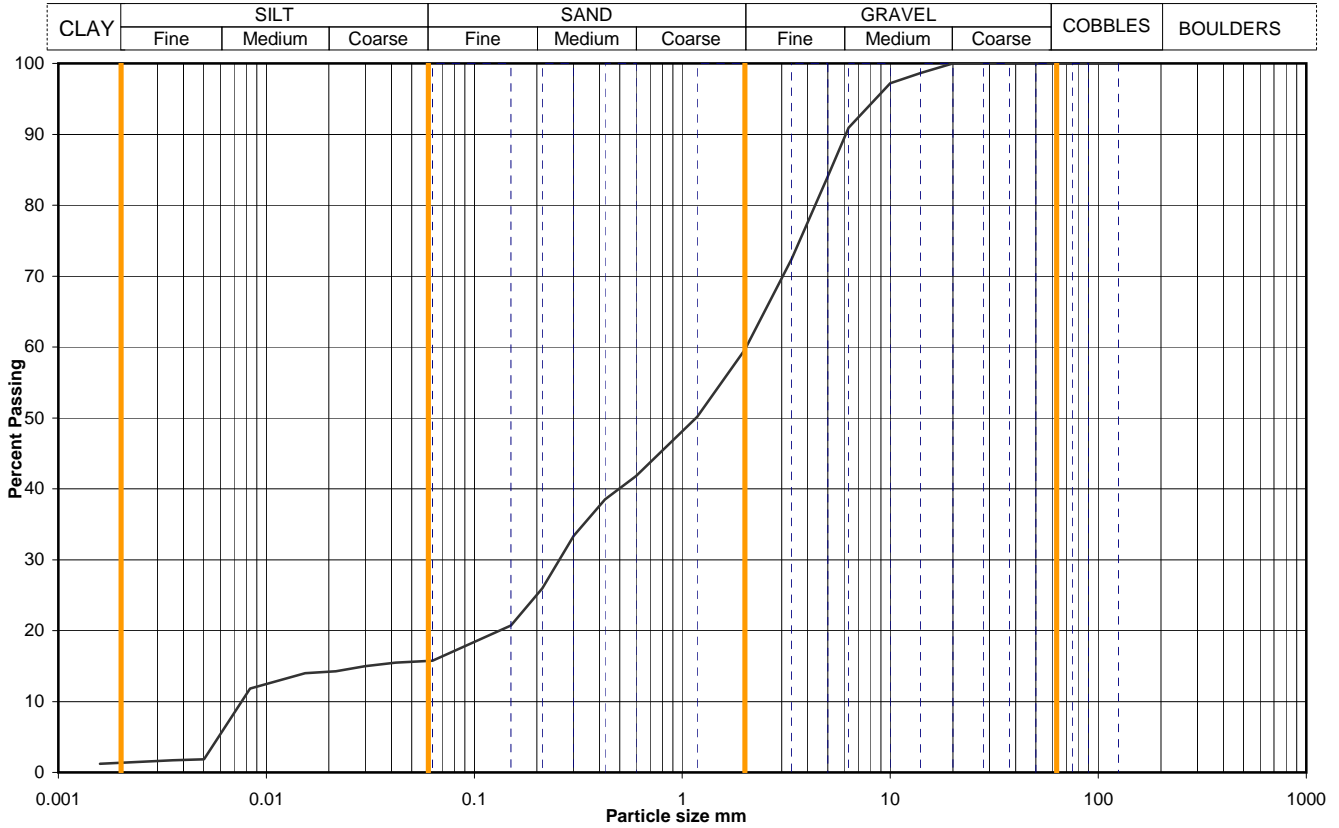


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS202
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	6.00
			Samp No	27
			Type	X
			ID	MASTER3268
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	16
90	100	0.0418	15
75	100	0.0299	15
63	100	0.0216	14
50	100	0.0154	14
37.5	100	0.0083	12
28	100	0.0050	2
20	100	0.0036	2
14	99	0.0016	1
10	97		
6.3	91		
5.0	84		
3.35	72		
2.00	60		
1.18	50		
0.600	42		
0.425	39		
0.300	33		
0.212	26		
0.150	21		
0.063	16		

Particle density, Mg/m <sup>3</sup> 2.65 assumed	Dry mass of sample, kg 0.3
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Soil description	Brown very gravelly silty SAND.		
Preparation / Pretreatment	Sieve: natural material    Hydro: as BS1377		
Remarks			
Sample Proportions <small>*&lt;60mm values to aid description only</small>	Cobbles / boulders	Whole	*<63mm
	Gravel	0	0
	Sand	40	40
	Silt	15	15
	Clay	1	1

Uniformity Coefficient	$D_{60} / D_{10}$	267
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
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Aug 11

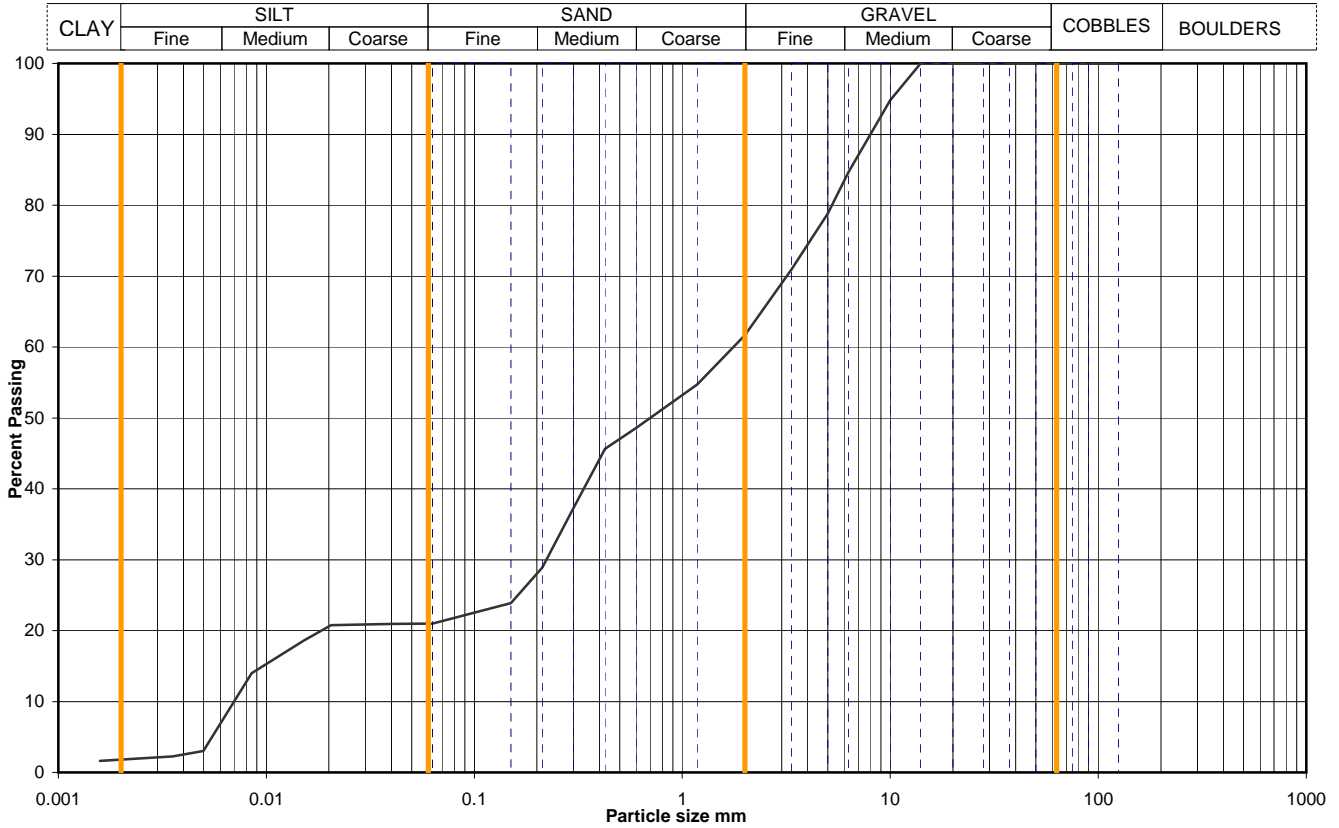


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS202
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	9.00
			Samp No	36
			Type	X
			ID	MASTER3271
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	21
90	100	0.0407	21
75	100	0.0289	21
63	100	0.0204	21
50	100	0.0151	19
37.5	100	0.0085	14
28	100	0.0050	3
20	100	0.0035	2
14	100	0.0016	2
10	95		
6.3	85		
5.0	79		
3.35	71		
2.00	62		
1.18	55		
0.600	49		
0.425	46		
0.300	37		
0.212	29		
0.150	24		
0.063	21		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	5.0

Soil description	Light brown and cream sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material    Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		38	38
		41	41
		19	19
*<60mm values to aid description only		2	2

Uniformity Coefficient	$D_{60} / D_{10}$	252
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11



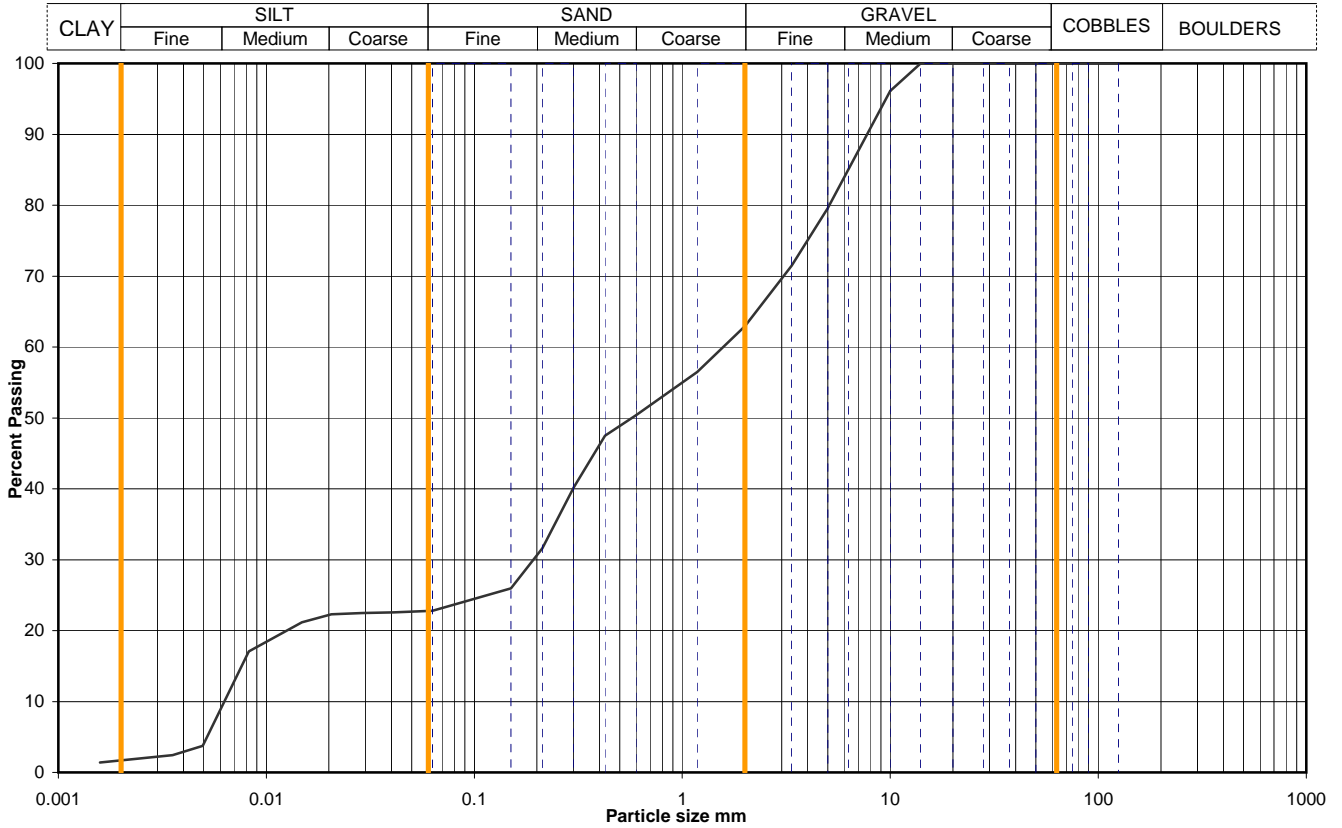
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Figure  
**PSD**



# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS202		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	10.00		
			Samp No	40	Type	X
			ID	MASTER3272		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	23
90	100	0.0408	23
75	100	0.0289	23
63	100	0.0205	22
50	100	0.0148	21
37.5	100	0.0082	17
28	100	0.0049	4
20	100	0.0035	2
14	100	0.0016	1
10	96		
6.3	85		
5.0	80		
3.35	71		
2.00	63		
1.18	56		
0.600	50		
0.425	48		
0.300	40		
0.212	32		
0.150	26		
0.063	23		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	2.3

Soil description	Brown sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		37	37
		40	40
		21	21
*<60mm values to aid description only		2	2

Uniformity Coefficient	$D_{60} / D_{10}$	251
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

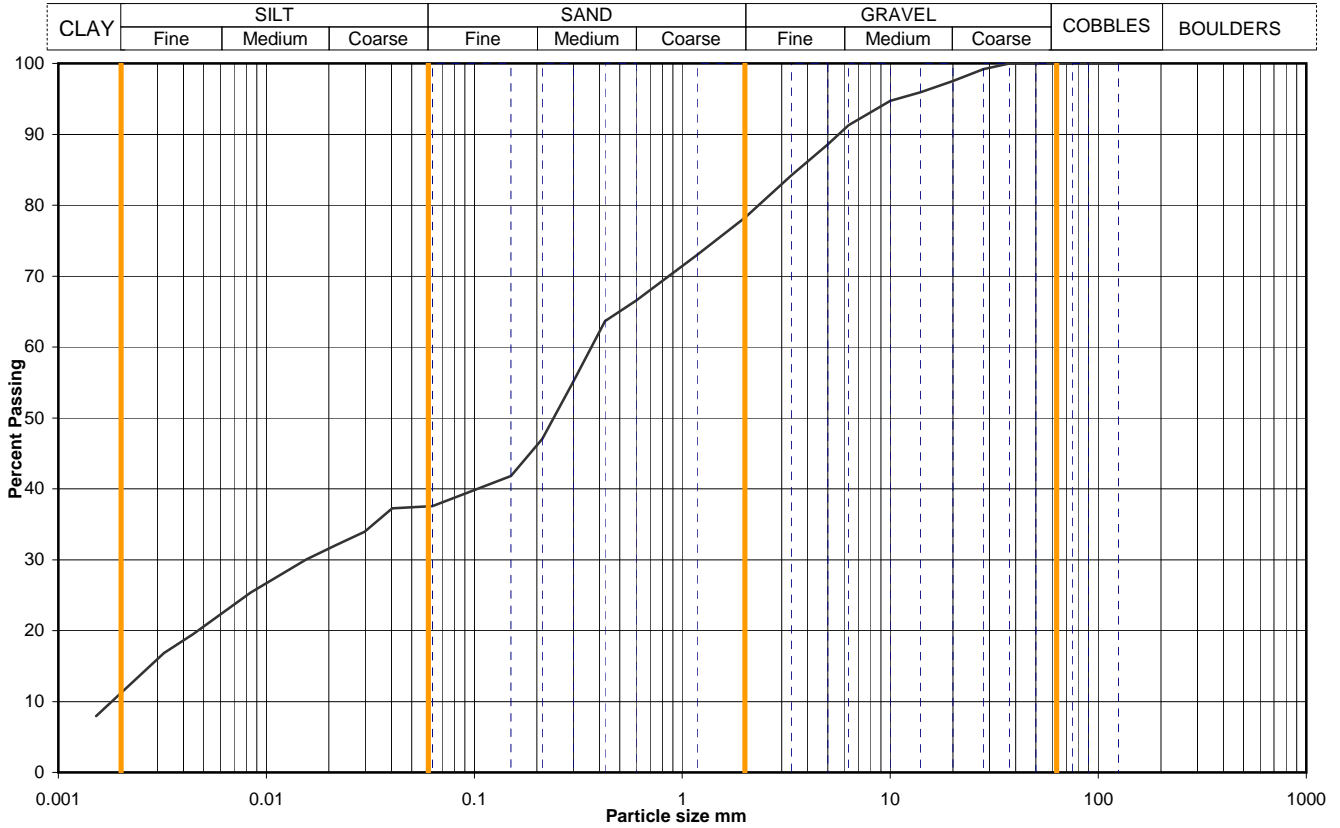


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS203		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	5	Type	B
			ID	MASTER3274		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	38
90	100	0.0403	37
75	100	0.0297	34
63	100	0.0215	32
50	100	0.0155	30
37.5	100	0.0084	25
28	99	0.0044	20
20	98	0.0032	17
14	96	0.0015	8
10	95		
6.3	91		
5.0	89		
3.35	84		
2.00	78		
1.18	73		
0.600	67		
0.425	64		
0.300	55		
0.212	47		
0.150	42		
0.063	38		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	4.5

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		22	22
		41	41
		26	26
		11	11

Uniformity Coefficient	$D_{60} / D_{10}$	202
------------------------	-------------------	-----

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

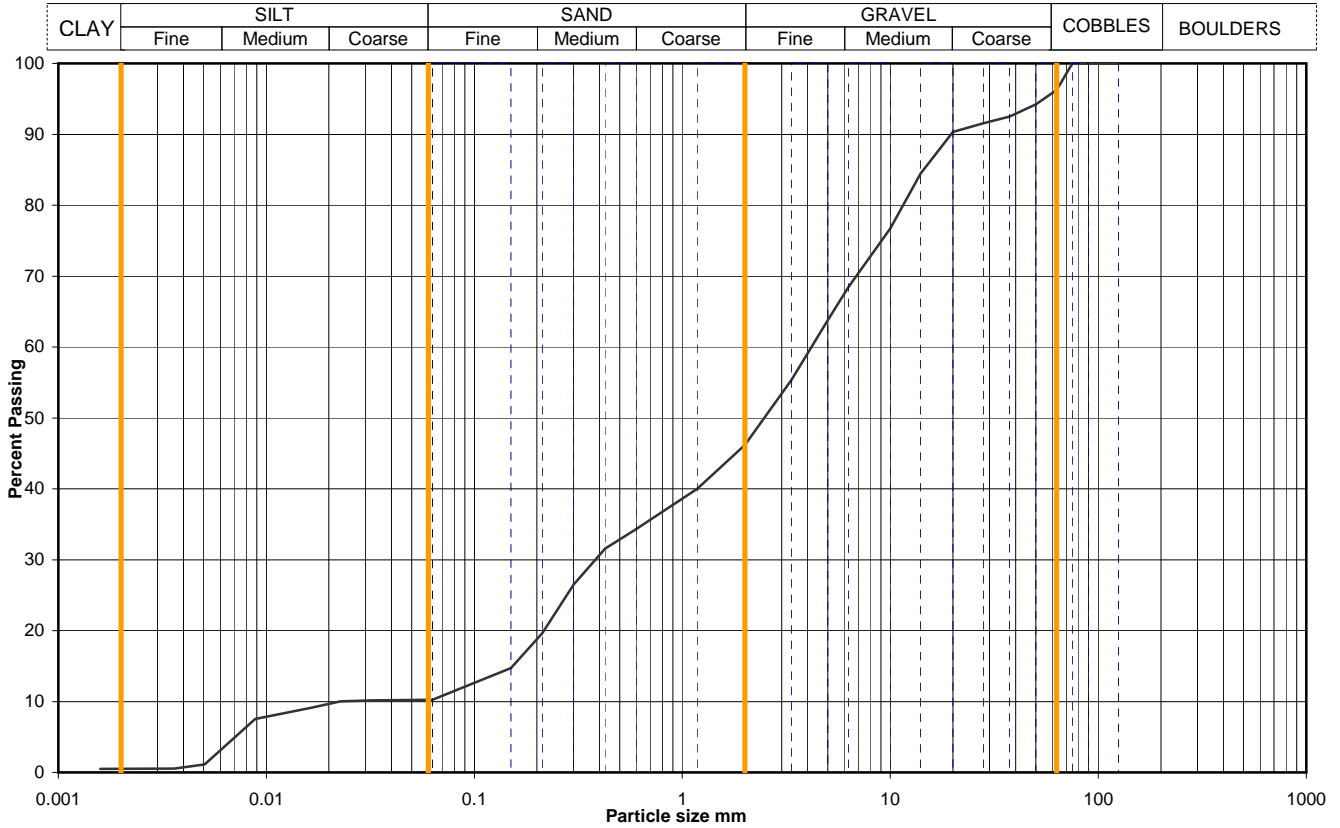


Printed:07/09/2015 12:37

Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS203
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.20
			Samp No	8
			Type	X
			ID	MASTER3276
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	10
90	100	0.0452	10
75	100	0.0320	10
63	96	0.0227	10
50	94	0.0164	9
37.5	93	0.0088	8
28	92	0.0051	1
20	90	0.0036	1
14	84	0.0016	1
10	77		
6.3	68		
5.0	64		
3.35	55		
2.00	46		
1.18	40		
0.600	34		
0.425	32		
0.300	26		
0.212	20		
0.150	15		
0.063	10		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	4.6

Soil description	Light brown sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		4	0
		50	52
		36	38
		10	10
*<60mm values to aid description only		0	0

Uniformity Coefficient	$D_{60} / D_{10}$	185
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

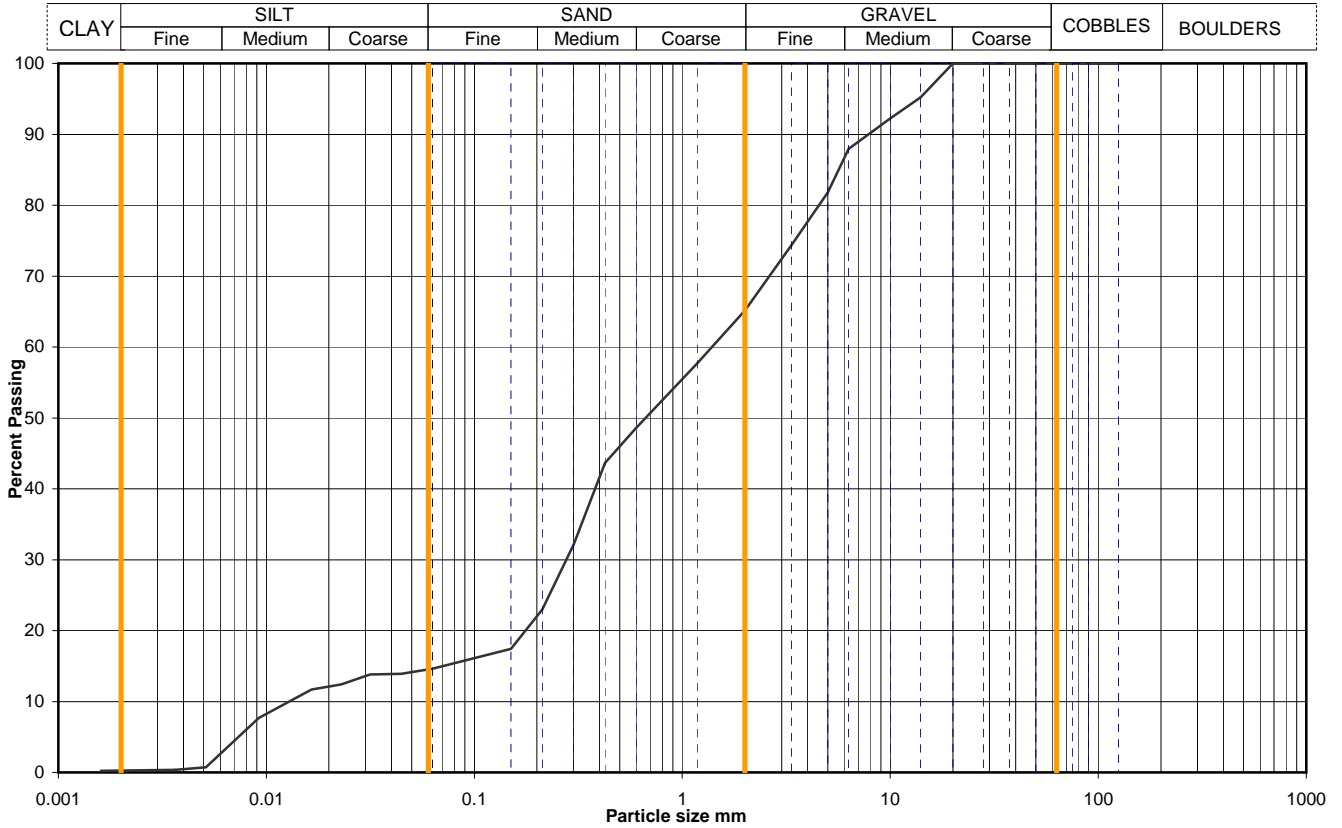


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS203		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	2.00		
			Samp No	12	Type	X
			ID	MASTER3278		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	15
90	100	0.0445	14
75	100	0.0315	14
63	100	0.0230	12
50	100	0.0165	12
37.5	100	0.0092	8
28	100	0.0051	1
20	100	0.0036	0
14	95	0.0016	0
10	92		
6.3	88		
5.0	82		
3.35	74		
2.00	65		
1.18	58		
0.600	49		
0.425	44		
0.300	32		
0.212	23		
0.150	17		
0.063	15		

Particle density, Mg/m <sup>3</sup>	
2.65	assumed
Dry mass of sample, kg	
0.8	

Soil description	Brown very gravelly silty SAND.		
Preparation / Pretreatment	Sieve: natural material    Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		35	35
		51	51
		14	14
*<60mm values to aid description only		0	0

Uniformity Coefficient	$D_{60} / D_{10}$	108
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

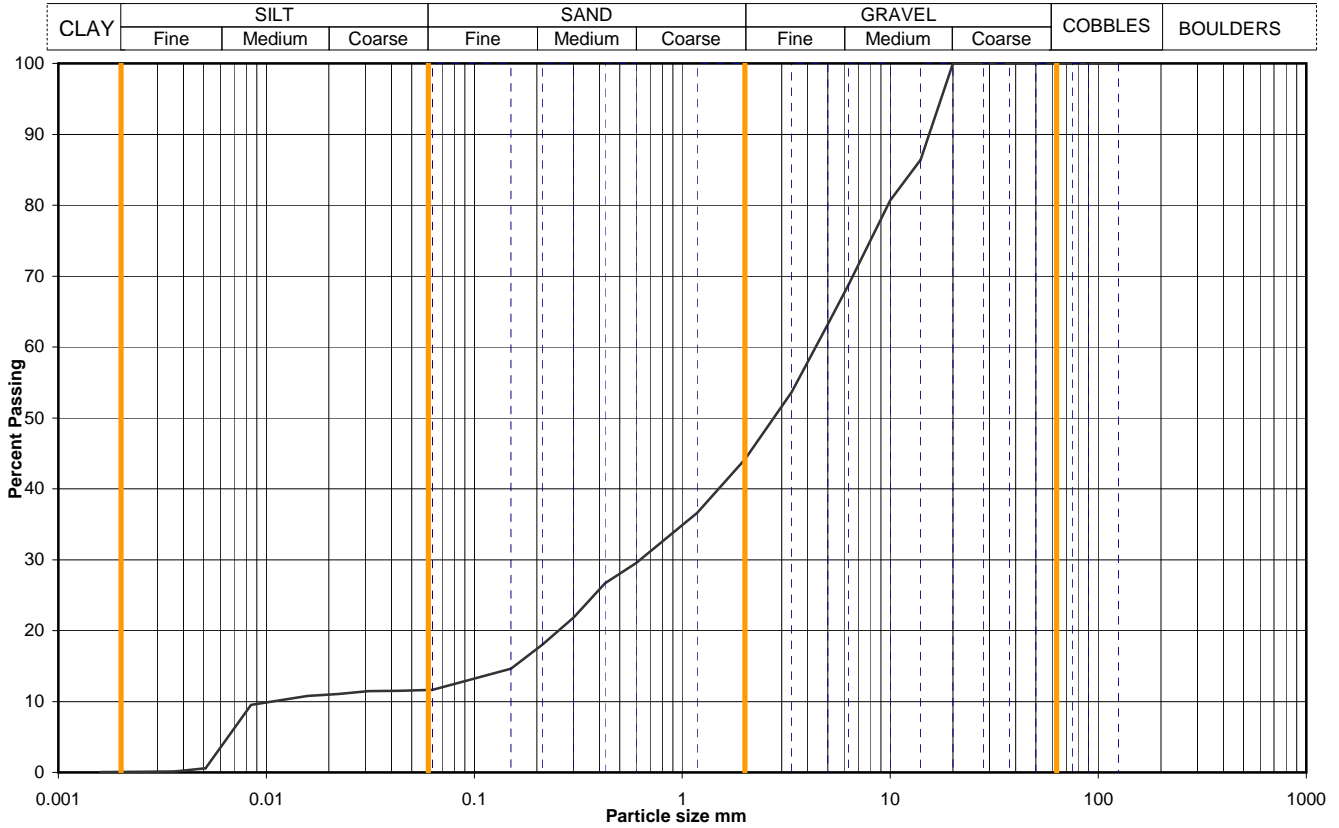


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS204		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00		
			Samp No	5	Type	B
			ID	MASTER3204		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	12
90	100	0.0438	12
75	100	0.0310	11
63	100	0.0222	11
50	100	0.0158	11
37.5	100	0.0084	10
28	100	0.0051	1
20	100	0.0036	0
14	86	0.0016	0
10	81		
6.3	69		
5.0	63		
3.35	54		
2.00	44		
1.18	37		
0.600	30		
0.425	27		
0.300	22		
0.212	18		
0.150	15		
0.063	12		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	6.3

Soil description	Brown very sandy silty GRAVEL.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		56	56
		33	33
		11	11
*<60mm values to aid description only		0	0

Uniformity Coefficient	$D_{60} / D_{10}$	406
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

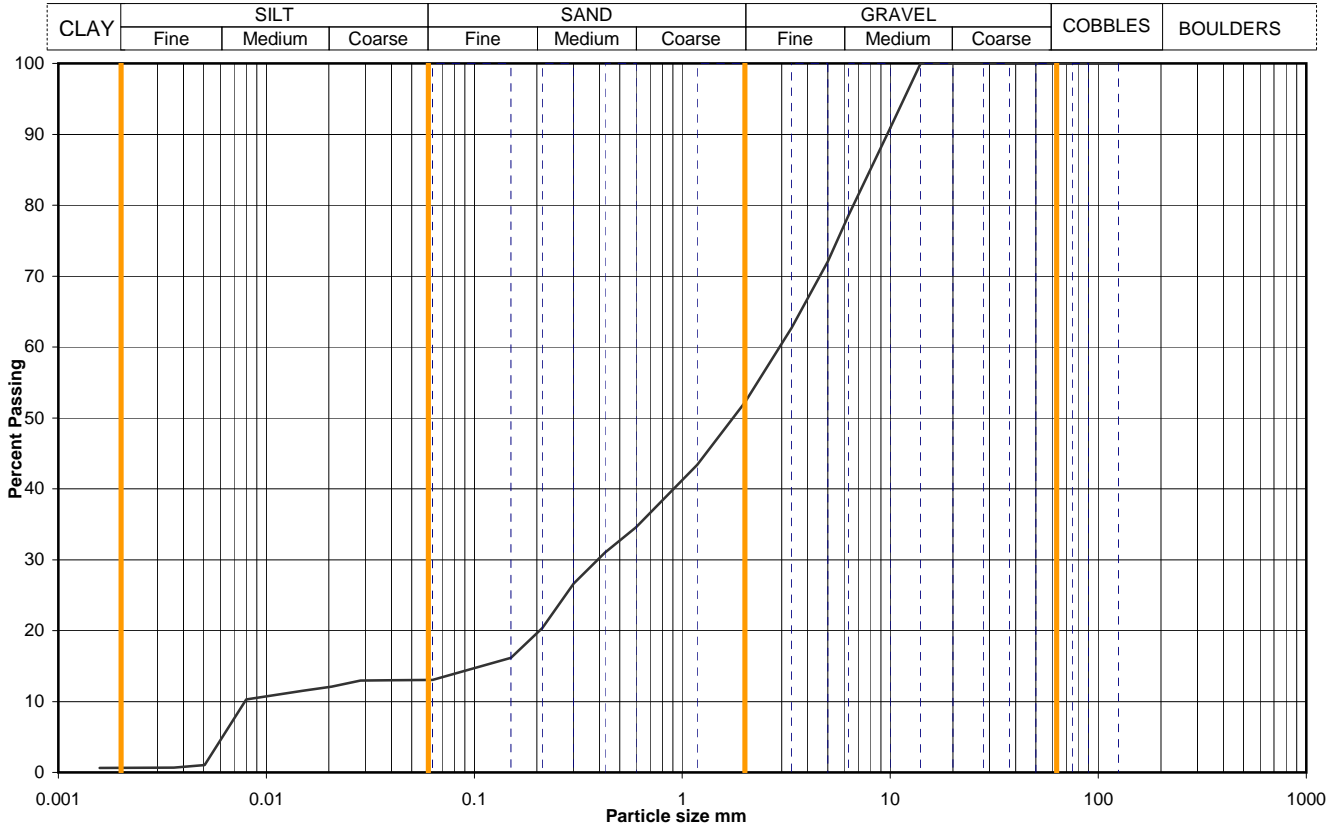


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS204
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	2.00
			Samp No	12
			Type	X
			ID	MASTER3206
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	13
90	100	0.0400	13
75	100	0.0283	13
63	100	0.0206	12
50	100	0.0149	11
37.5	100	0.0080	10
28	100	0.0051	1
20	100	0.0036	1
14	100	0.0016	1
10	91		
6.3	79		
5.0	72		
3.35	63		
2.00	52		
1.18	43		
0.600	35		
0.425	31		
0.300	27		
0.212	20		
0.150	16		
0.063	13		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	3.4

Soil description	Brownish sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		48	48
		39	39
		12	12
*<60mm values to aid description only		1	1

Uniformity Coefficient	$D_{60} / D_{10}$	372
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

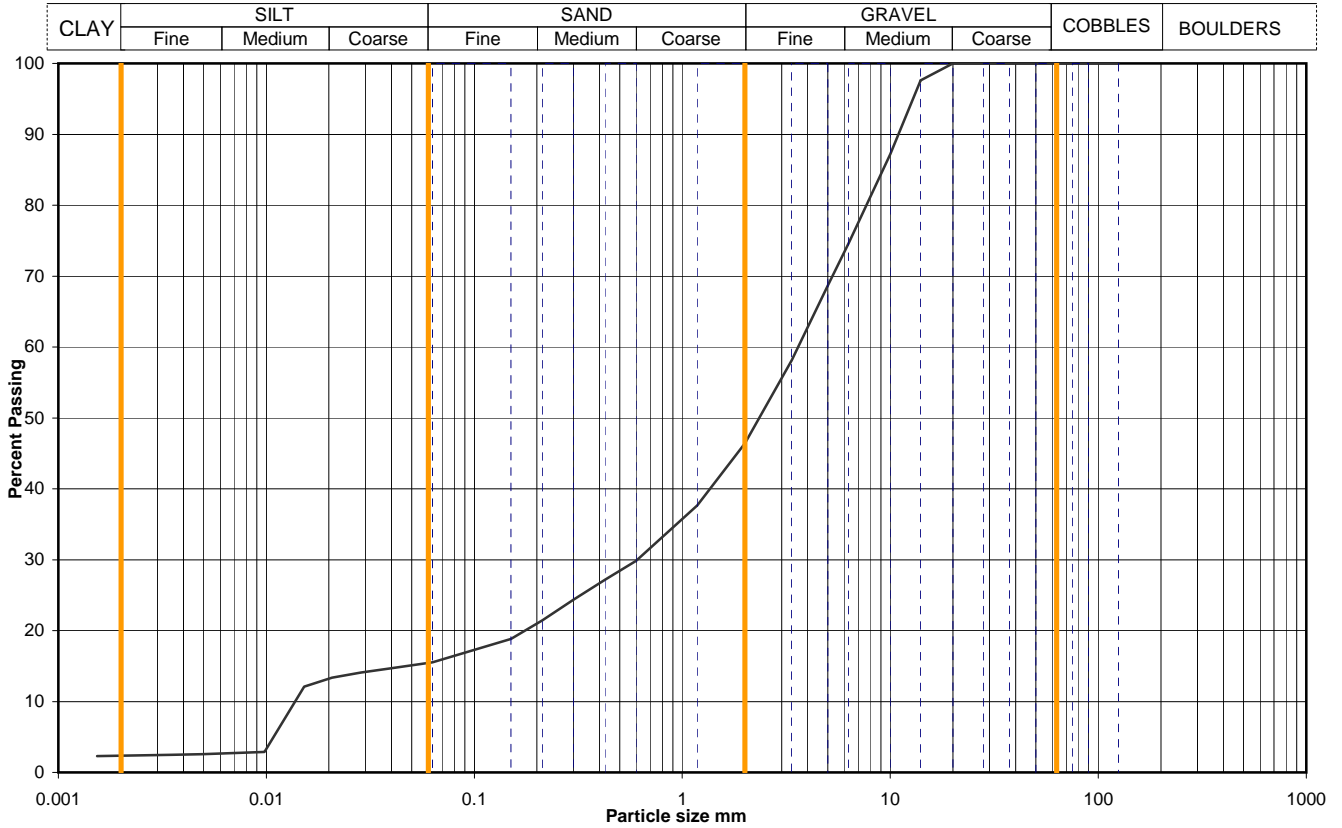


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS204
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	4.00
			Samp No	22
			Type	X
			ID	MASTER3209
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	16
90	100	0.0395	15
75	100	0.0285	14
63	100	0.0207	13
50	100	0.0152	12
37.5	100	0.0098	3
28	100	0.0049	3
20	100	0.0035	2
14	98	0.0015	2
10	87		
6.3	75		
5.0	69		
3.35	58		
2.00	46		
1.18	38		
0.600	30		
0.425	27		
0.300	24		
0.212	21		
0.150	19		
0.063	16		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	0.8

Soil description	Brown very sandy silty GRAVEL.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		54	54
		31	31
		13	13
*<60mm values to aid description only		2	2

Uniformity Coefficient	$D_{60} / D_{10}$	262
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

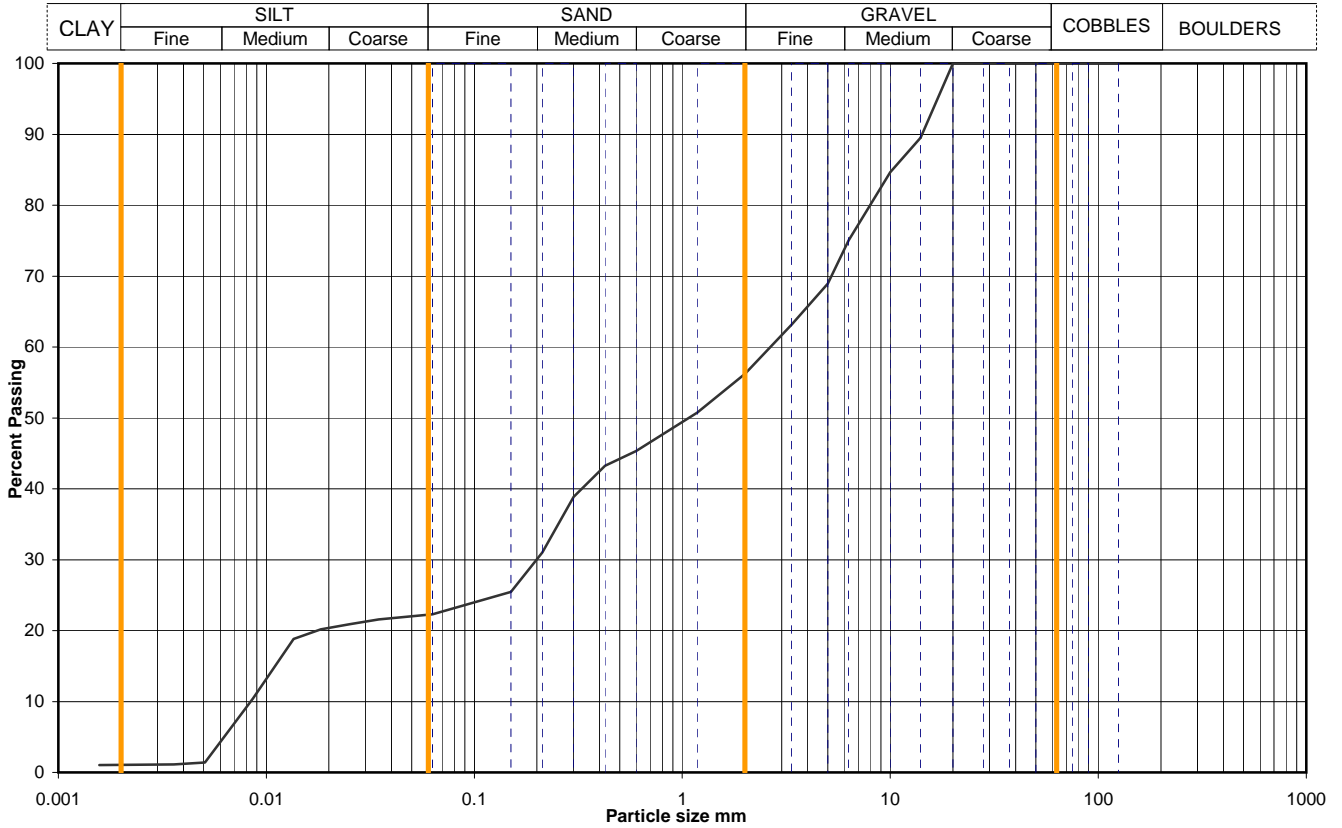


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Figure  
**PSD**

# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS204
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	8.00
			Samp No	36
			Type	X
			ID	MASTER3213
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0347	22
75	100	0.0252	21
63	100	0.0183	20
50	100	0.0135	19
37.5	100	0.0086	10
28	100	0.0051	1
20	100	0.0036	1
14	90	0.0016	1
10	85		
6.3	75		
5.0	69		
3.35	63		
2.00	56		
1.18	51		
0.600	45		
0.425	43		
0.300	39		
0.212	31		
0.150	25		
0.063	22		

Particle density, Mg/m <sup>3</sup>	2.65 assumed
Dry mass of sample, kg	0.9

Soil description	Grey slightly sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		44	44
		34	34
		21	21
*<60mm values to aid description only		1	1

Uniformity Coefficient	$D_{60} / D_{10}$	315
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
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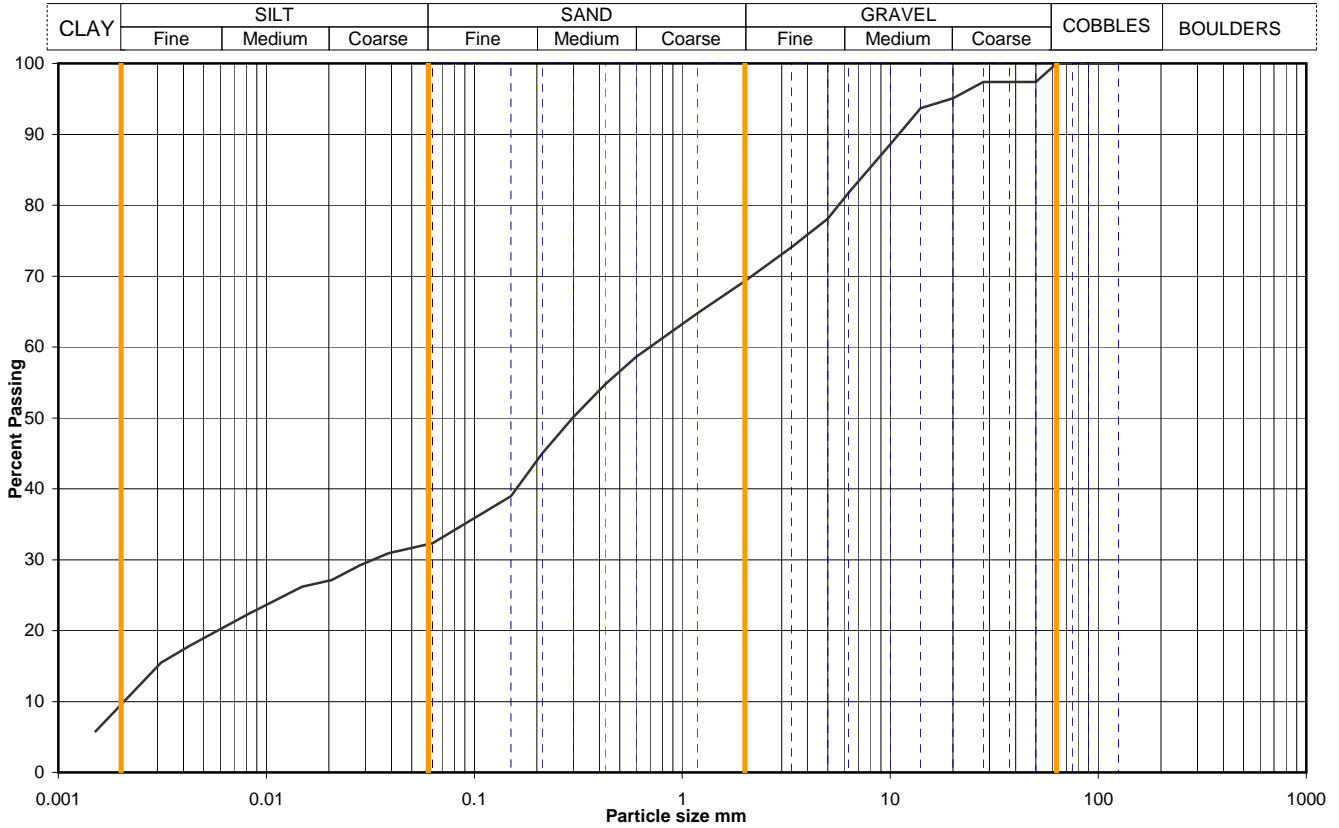
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Figure  
**PSD**



# Particle Size Distribution Analysis

Project No	N5110-15	Sample Details:	Hole No	WS301
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.00
			Samp No	5
			Type	B
			ID	MASTER3214
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	32
90	100	0.0387	31
75	100	0.0282	29
63	100	0.0206	27
50	97	0.0148	26
37.5	97	0.0081	22
28	97	0.0043	18
20	95	0.0031	15
14	94	0.0015	6
10	89		
6.3	82		
5.0	78		
3.35	74		
2.00	69		
1.18	65		
0.600	59	Particle density, Mg/m <sup>3</sup>	
0.425	55	2.65 assumed	
0.300	50	Dry mass of sample, kg	
0.212	45	6.8	
0.150	39		
0.063	32		

Soil description	Grey very gravelly very silty SAND.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<63mm
		0	0
		31	31
		37	37
		23	23
*<60mm values to aid description only		9	9

Uniformity Coefficient	$D_{60} / D_{10}$	337
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref  
SLR 2,9  
Rev 88  
Aug 11

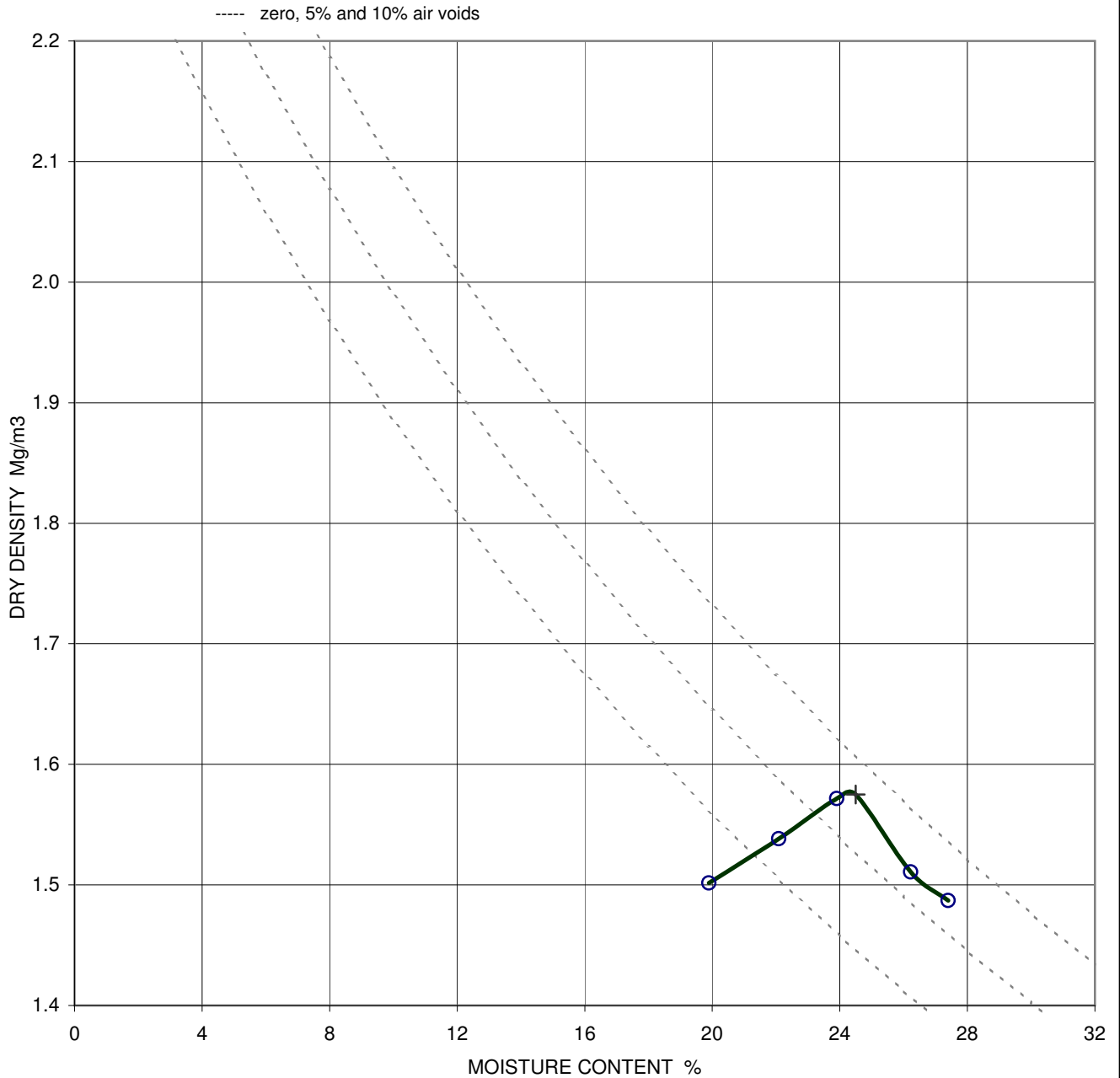


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Figure  
**PSD**

**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

Project No	N5110-15	Sample Details:	Hole No	TP302		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	1.50		
			Samp No	7	Type	B
			ID	MASTER3249		
			Spec Ref			



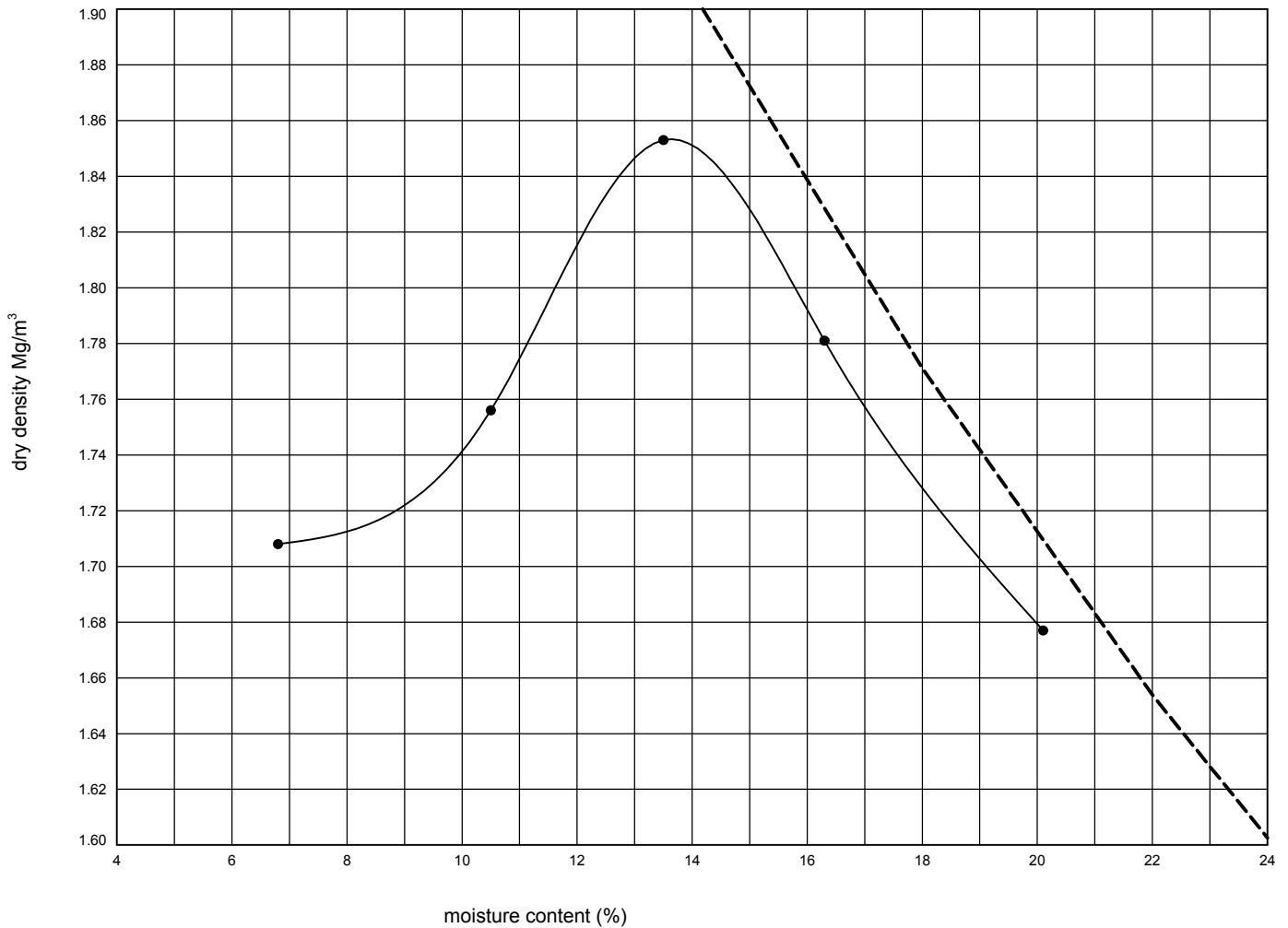
Soil description	Grey very sandy silty GRAVEL.	Derived Parameters + Maximum dry density, Mg/m3 <b>1.58</b> Optimum moisture content, % <b>25</b>
Test method	BS 1377:part 4:1990: clause 3.4, 2.5 kg rammer in a CBR mould	
Preparation	Original material was natural, single sample tested	
Material > 37.5mm	6 %	
Material < 37.5mm > 20mm	6 %	
Particle density, Mg/m <sup>3</sup>	2.65 assumed	
Remarks		

# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP



BS.1377 : Part 4 : 1990 : 3

CLIENT	LONDON RESORT COMPANY HOLDINGS LTD	BH/TP No.	TP701
SITE	LONDON PARAMOUNT ENTERTAINMENT RESORT	SAMPLE No./TYPE	8B
		SAMPLE DEPTH (m)	1.50
DESCRIPTION	Brown slightly sandy slightly gravelly SILT with medium cobble content	SPECIMEN DEPTH (m)	1.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Queadley, Gloucester: GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 19/10/2015 09:18:34

test method	3.4.4.1 2.5kg dynamic compaction - CBR mould		
preparation procedure	3.2.5.1 (grading zone 3)		
sample preparation	C,R		
proportion retained on 37.5mm sieve (%)	0	initial moisture content (%)	17
proportion retained on 20mm sieve (%)	5.32	maximum dry density (Mg/m³)	1.85
particle density (Mg/m³)	#2.60	optimum moisture content (%)	14

remarks:

- represents 0% air voids curve
- # denotes particle density has been assigned an assumed value
- C denotes sample has been chopped to pass 20mm sieve
- S denotes sample has been shredded to pass 20mm sieve
- R denotes sample material has been recycled between/for points
- Sample combined with 9D @1.5m

CONTRACT	CHECKED
<b>30766</b>	<b>SR</b>

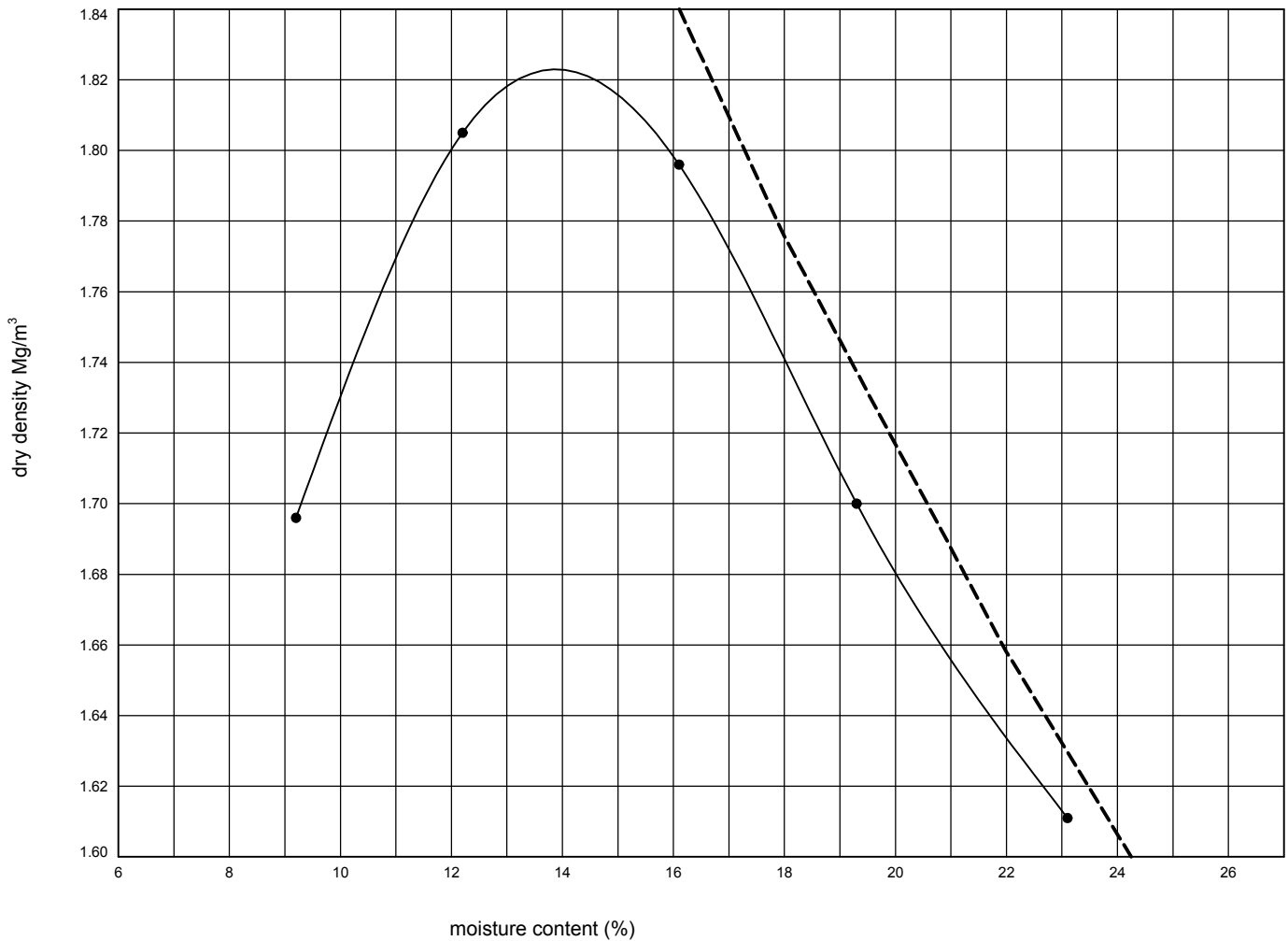
# DRY DENSITY/MOISTURE CONTENT RELATIONSHIP



BS.1377 : Part 4 : 1990 : 3

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brown slightly gravelly sandy silty CLAY

BH/TP No. TP702  
 SAMPLE No./TYPE 13B  
 SAMPLE DEPTH (m) 2.50  
 SPECIMEN DEPTH (m) 2.50



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Queadley, Gloucester: GL2 4NF. Tel. 01452 527743 30766 MASTER.GPJ 13/10/2015 10:15:54

test method	3.3.4.1 2.5kg dynamic compaction - 1L mould		
preparation procedure	3.2.4.1 (grading zone 1)		
sample preparation	C,R		
proportion retained on 37.5mm sieve (%)	0	initial moisture content (%)	18
proportion retained on 20mm sieve (%)	0	maximum dry density (Mg/m³)	1.82
particle density (Mg/m³)	#2.61	optimum moisture content (%)	14

remarks:

- represents 0% air voids curve
- # denotes particle density has been assigned an assumed value
- C denotes sample has been chopped to pass 20mm sieve
- S denotes sample has been shredded to pass 20mm sieve
- R denotes sample material has been recycled for points

CONTRACT	CHECKED
<b>30766</b>	<b>SR</b>

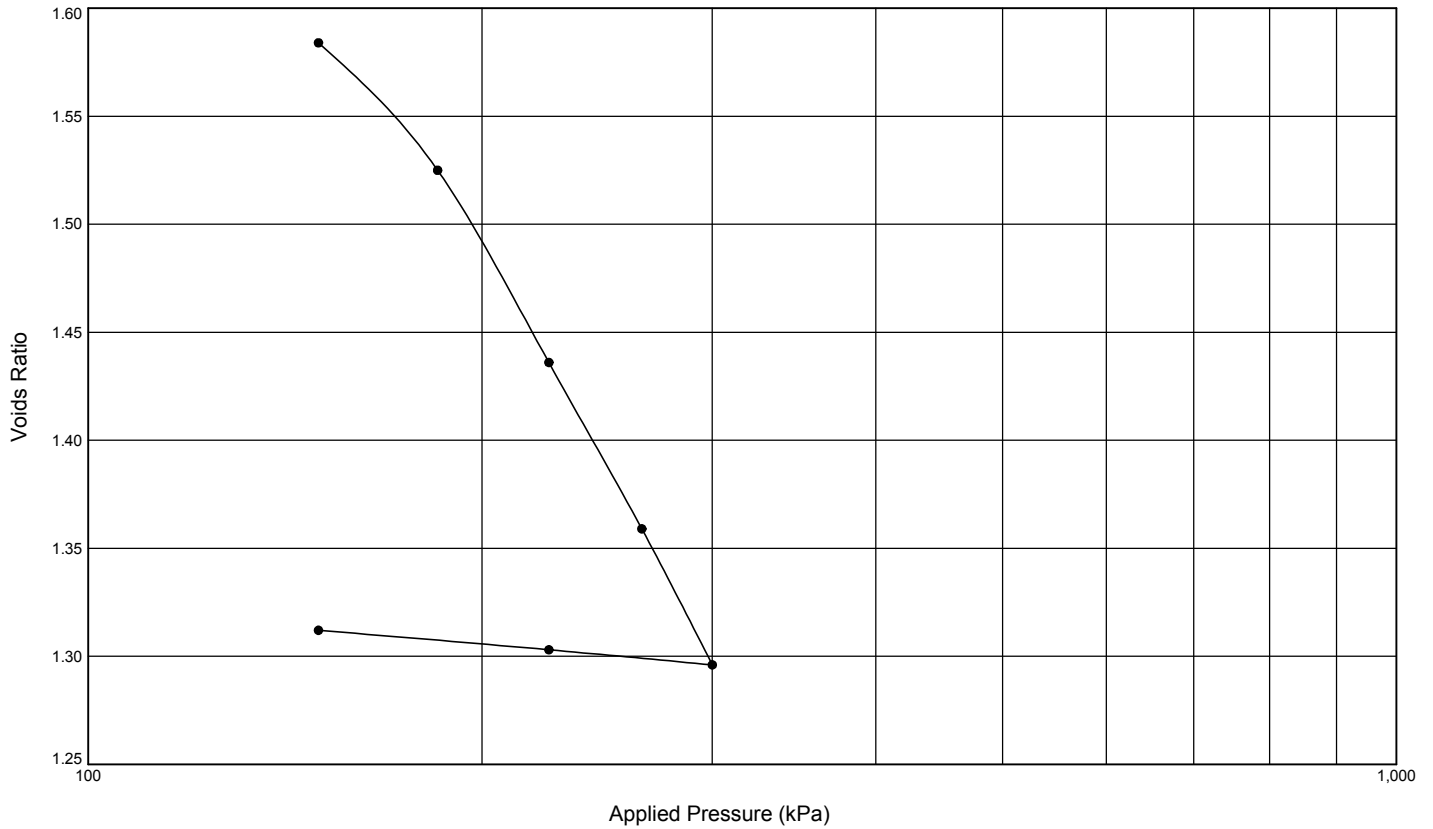
Geotechnical Engineering Limited  
**CONSOLIDATION TEST**



BS.1377 : Part 5 : 1990 : 3

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Brownish grey slightly sandy organic CLAY

BH/TP No. BH101  
 SAMPLE No./TYPE 32UT  
 SAMPLE DEPTH (m) 7.20  
 SPECIMEN DEPTH (m) 7.35



Test and sample details			Test results			
specimen diameter	(mm)	63.32	pressure stage (kPa)	voids ratio	laboratory coefficients of	
specimen height	(mm)	18.83			compressibility (m <sup>2</sup> /MN)	consolidation (m <sup>2</sup> /year)
initial moisture content	(%)	86.4	150	1.584	1.665	0.52
final moisture content	(%)	52.0	185	1.525	0.655	0.03
initial bulk density	(Mg/m <sup>3</sup> )	1.46	225	1.436	0.880	0.06
initial dry density	(Mg/m <sup>3</sup> )	0.78	265	1.359	0.789	0.10
initial voids ratio		2.444	300	1.296	0.764	0.01
initial degree of saturation	(%)	95	225	1.303	0.042	
particle density	(Mg/m <sup>3</sup> )	#2.70	150	1.312	0.050	
swelling pressure	(kPa)	N/A				
P'o to P'o +100 kPa	(kPa)	-				
laboratory temperature	(°C)	21				
method of time fitting		root time				
remarks: # denotes particle density has been assigned an assumed value.					CONTRACT	CHECKED
					<b>30766</b>	<b>SR</b>

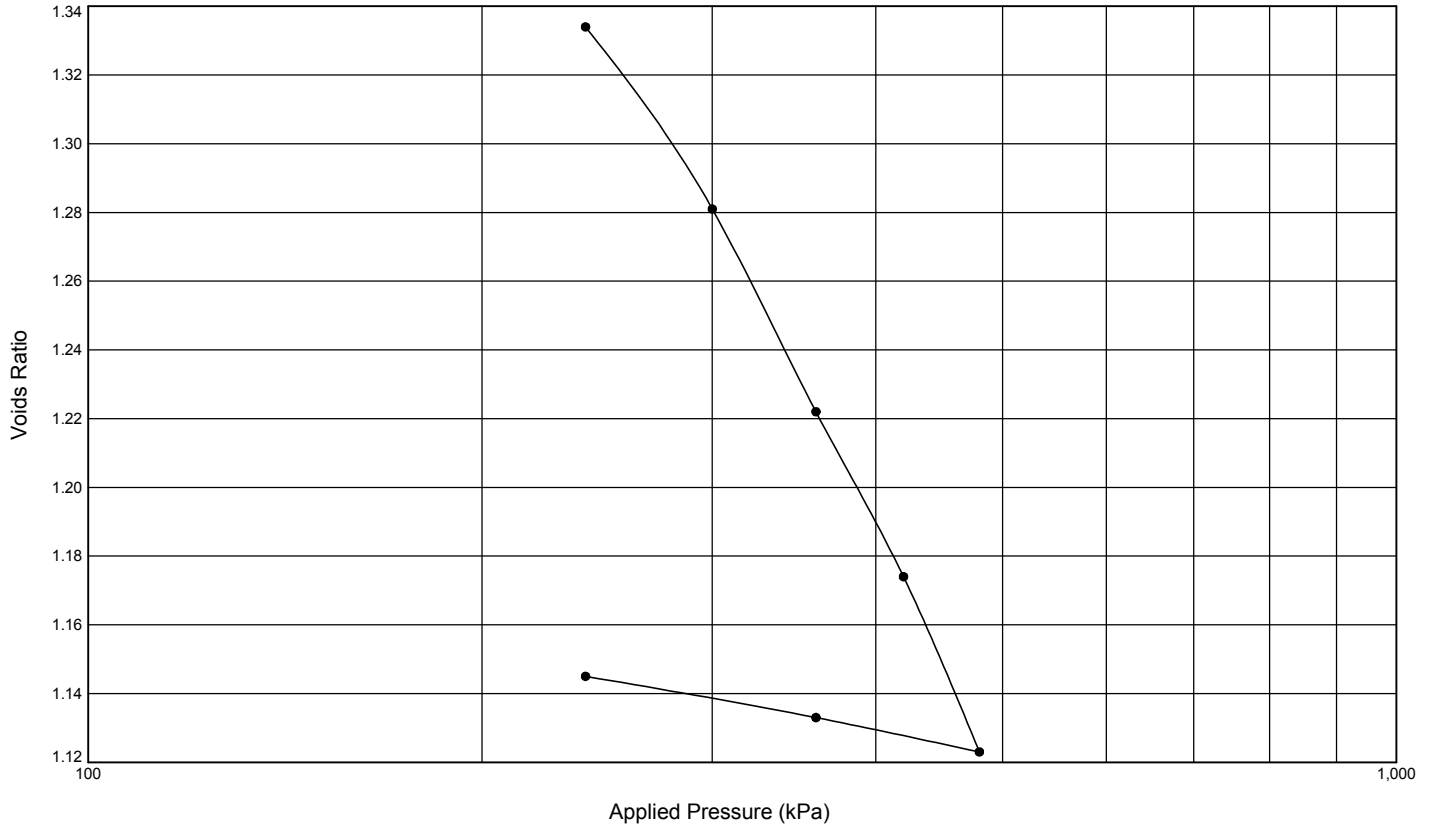
Geotechnical Engineering Limited  
**CONSOLIDATION TEST**



BS.1377 : Part 5 : 1990 : 3

CLIENT LONDON RESORT COMPANY HOLDINGS LTD  
 SITE LONDON PARAMOUNT ENTERTAINMENT RESORT  
 DESCRIPTION Greyish brown slighty sandy organic CLAY

BH/TP No. BH101  
 SAMPLE No./TYPE 50UT  
 SAMPLE DEPTH (m) 12.00  
 SPECIMEN DEPTH (m) 12.10



Test and sample details			Test results			
specimen diameter	(mm)	63.48	pressure stage (kPa)	voids ratio	laboratory coefficients of	
specimen height	(mm)	18.97			compressibility (m <sup>2</sup> /MN)	consolidation (m <sup>2</sup> /year)
initial moisture content	(%)	71.8	240	1.334	1.060	0.32
final moisture content	(%)	45.0	300	1.281	0.377	0.12
initial bulk density	(Mg/m <sup>3</sup> )	1.48	360	1.222	0.429	0.21
initial dry density	(Mg/m <sup>3</sup> )	0.86	420	1.174	0.364	0.06
initial voids ratio		2.129	480	1.123	0.385	0.02
initial degree of saturation	(%)	91	360	1.133	0.037	
particle density	(Mg/m <sup>3</sup> )	#2.70	240	1.145	0.046	
swelling pressure	(kPa)	N/A				
P'o to P'o +100 kPa	(kPa)	-				
laboratory temperature	(°C)	21				
method of time fitting		root time				
remarks: # denotes particle density has been assigned an assumed value.					CONTRACT	CHECKED
					<b>30766</b>	<b>SR</b>

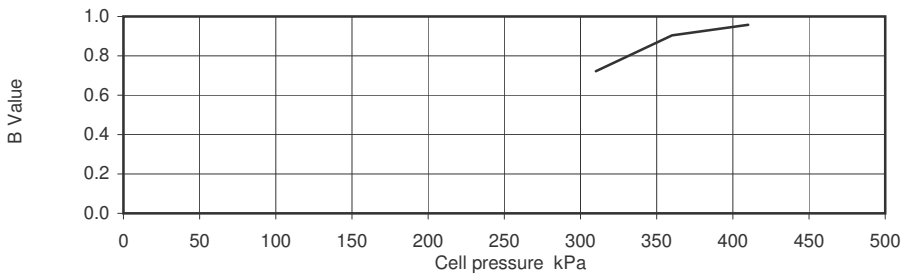
## Determination of Permeability in a Triaxial Cell ( BS1377 : Part 6 : 1990, clause 6 - Constant Head test )

Project No	N5110-15	Sample Details:	Hole No.	BH204		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.30-3.75		
			Sample No	13	Type	UT
			ID			
			Spec Ref			

### Specimen Details

Soil Description	Dark brown CLAY.			
Specimen Type /Preparation	RECOMPACTED using 2.5kg effort at as received moisture content	Bulk Density	Initial	Final
Length	100.4 mm	Water Content	1.39	1.45 Mg/m <sup>3</sup>
Diameter	102.7 mm	Dry density	120.9	100.2 %
Particle density	2.65 Mg/m <sup>3</sup> Assumed	Void ratio	0.63	0.72 Mg/m <sup>3</sup>
		Degree of saturation	3.20	2.66 %

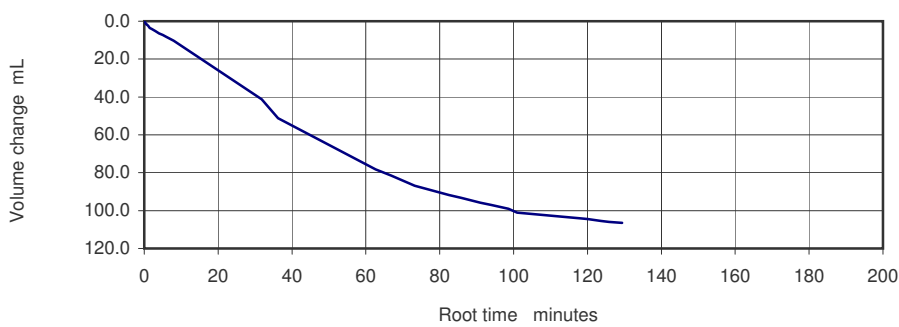
### Saturation Stage



#### Method:

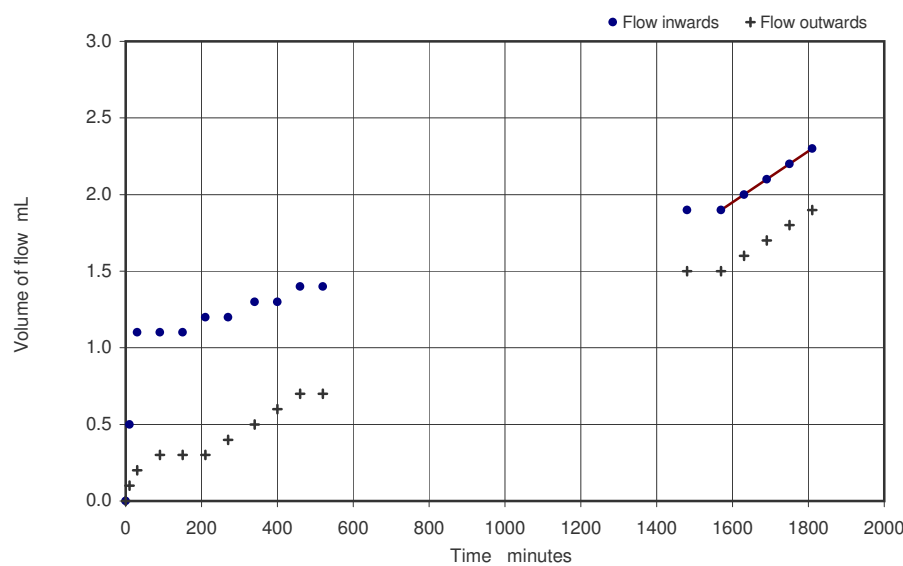
Increments of cell and back pressure		
Cell pressure increments	50	kPa
Differential Pressure	10	kPa
Final Cell Pressure	410	kPa
Final pore water pressure	396	kPa
Final B Value	0.96	

### Consolidation Stage



Drainage Condition	to one end only
Cell pressure applied	420 kPa
Back pressure applied	350 kPa
Effective stress	70 kPa

### Permeability Stage



Cell Pressure	425 kPa
Top Pressure	350 kPa
Base Pressure	360 kPa
Mean Effective Stress	70 kPa
Differential Pressure	10 kPa
Hydraulic gradient	10

Mean rate of flow	0.00167 ml/min
Temperature during test	24.2 °C

**PERMEABILITY,  $k_v$**

-10

( at 20°C )      **$3.0 \times 10$**      m/s

### Notes

**Determination of Permeability in a Triaxial Cell**

Borehole: BH204  
 Sample No: 21  
 Depth: 5.20 - 5.65

Description:  
 Soft to firm grey CLAY with rare fine sand and some patches of black organic rich clay.

**SPECIMEN DETAILS**

Depth within original sample	30mm from top
Orientation within original	Vertical
Specimen preparation	Undisturbed

**TEST DETAILS**

Cell Preparation	Performed in accordance with Clause 3.5
------------------	---

		INITIAL	FINAL
Diameter	mm	100.9	96.2
Height	mm	100.3	95.9
Moisture Content	%	65	50
Bulk Density	Mg/m <sup>3</sup>	1.60	1.68
Dry Density	Mg/m <sup>3</sup>	0.97	1.12

**SATURATION STAGE**

Saturation initially by constant moisture content, followed by back-pressure assistance using 5-10 kPa differential

'B' value	0.98	0.99
-----------	------	------

**CONSOLIDATION STAGE**

Effective pressure	kPa	110
Volume change	mL	104.9

**PERMEABILITY STAGE**

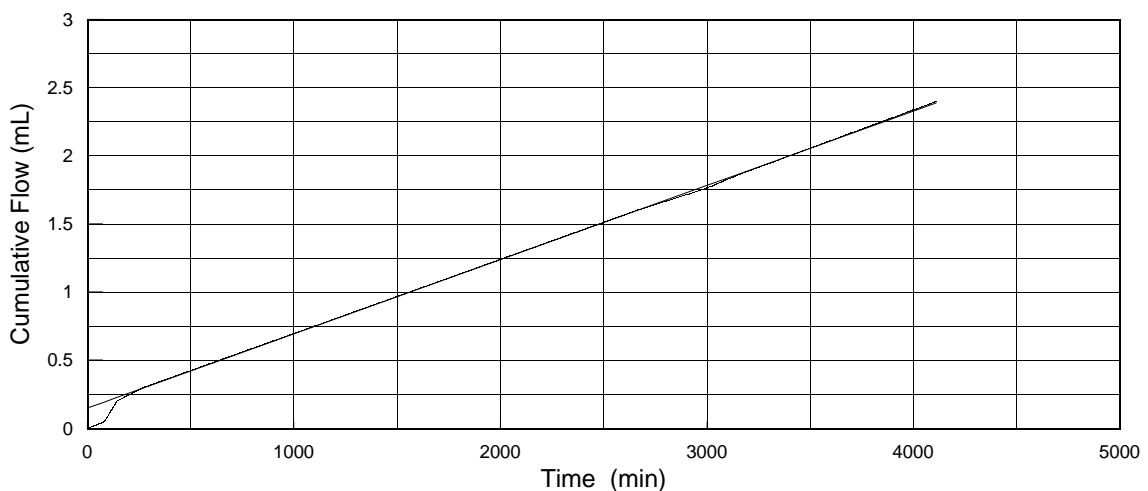
Pressure difference across specimen	20
Hydraulic gradient	21.3
Mean effective stress	kPa 100

**TEST DURATIONS**

Saturation	days	2
Consolidation	days	4
Flow	days	2

**RESULT**

Coefficient of Permeability  
**kv at 20°C = 5.9 x 10<sup>-11</sup> m/s**



Checked and  
 Approved

Initials:

RJP

Date:  
 17/08/15

Project Number:

**GEO / 22927**

Project Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT**

**Project Number 30766**



**GEOLABS®**



**Determination of shear strength by direct shear ( Small shearbox apparatus )  
( BS1377 : Part 7 : clause 4 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No.	WS102		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.00 - 4.00		
			Sample No	19	Type	X
			ID			
			Spec Ref			

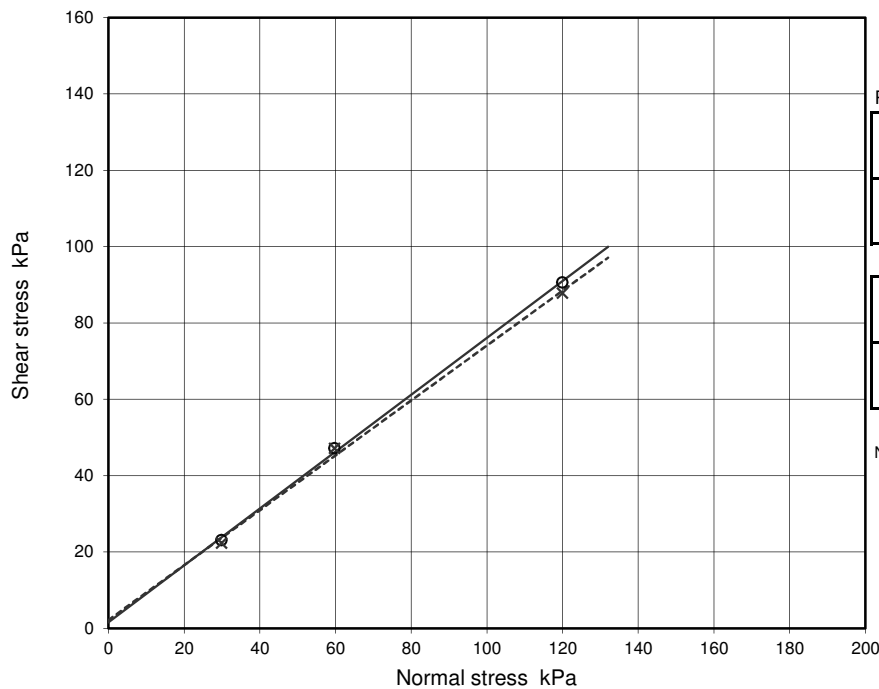
Soil Description	Light brown slightly gravelly SILT.
Specimen Type /Preparation	-2mm material. Recompacted to a medium dense state at as received moisture content.

Specimen(s) nominally 60mm x 60mm square  
 Test(s) carried out in submerged condition  
 Particle density, assumed 2.65 Mg/m<sup>3</sup>

Specimen Details		No.	1	2	3	4	5	6
Initial	Height	mm	25.0	25.0	25.0			
	Bulk Density	Mg/m <sup>3</sup>	1.33	1.33	1.33			
	Water Content	%	80.4	80.4	80.6			
	Dry density	Mg/m <sup>3</sup>	0.74	0.74	0.74			
	Voids ratio		2.600	2.599	2.603			
	Degree of Saturation	%	82	82	82			
Consol <sup>1</sup>	Consolidation / Normal Stress applied	kPa	30	60	120			
	Change in height during consolidation	mm	-0.242	-0.388	-0.570			
	Voids ratio after consolidation		2.565	2.543	2.520			
Shear see note 1	Voids ratio at end of test		2.521	2.439	2.377			
	Moisture content at end of test	%	91.5	88.9	86.6			
	Saturation at end of test	%	96	97	97			

**Shearing stage**

Rate of displacement	Peak	mm/min	0.041	0.041	0.041			
	Residual	mm/min	0.103	0.103	0.103			
Peak values, (o)	Relative displacement	mm	8.50	10.00	9.13			
	Shear stress	kPa	23.1	47.1	90.6			
Residual values, (x)	No. of reversals		2	2	2			
	Relative displacement	mm	10.00	10.00	30.00			
	Shear stress	kPa	22.3	47.1	87.8			



**Shear Strength Parameters**

Peak strength, (o)		Regression	Manual
c'	kPa	1.5	-
Ø'	degrees	36½	-

Residual strength, (x)		Regression	Manual
c' <sub>R</sub>	kPa	2.2	-
Ø' <sub>R</sub>	degrees	35½	-

Notes :

1 After shear values based on BS1377. Pt 7 cl. 4.6.1.6 using δH calculated from consolidation and shear stages

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Figure

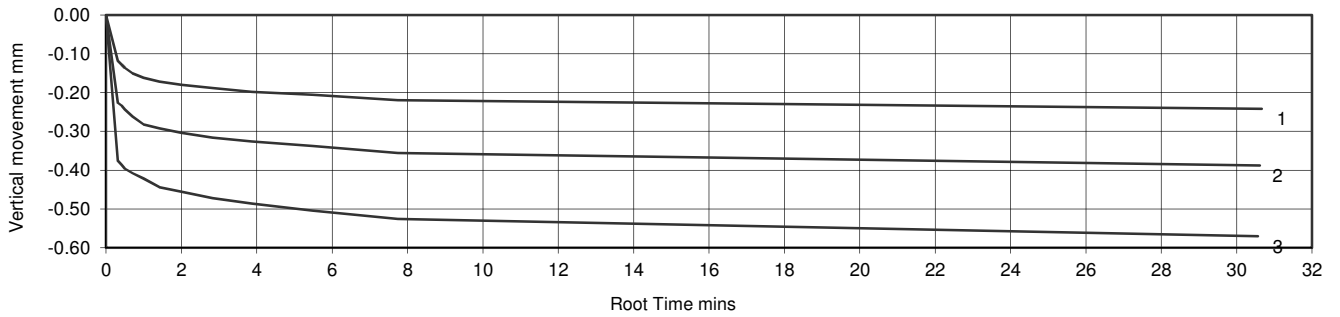
**SSB**

sheet 1 of 2

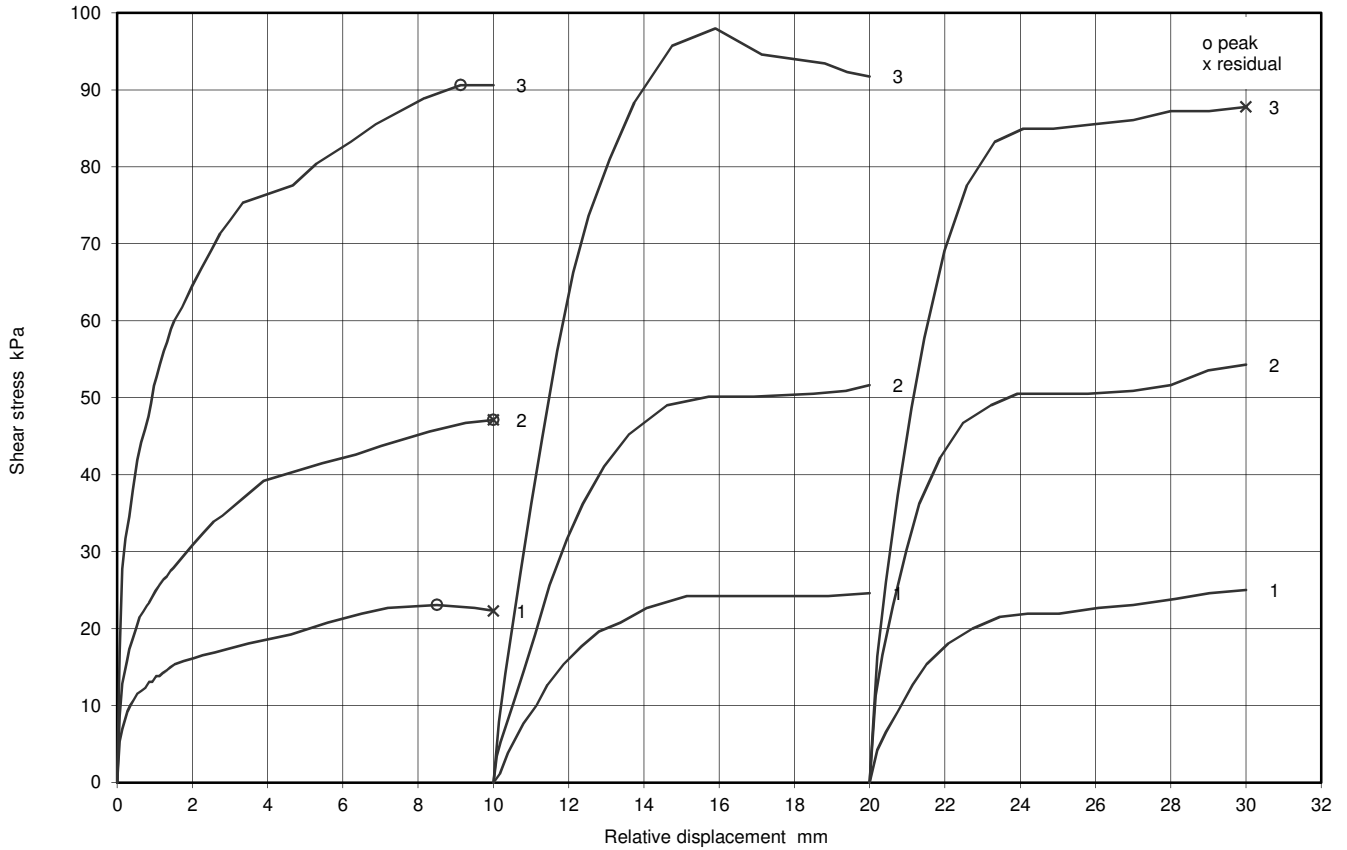
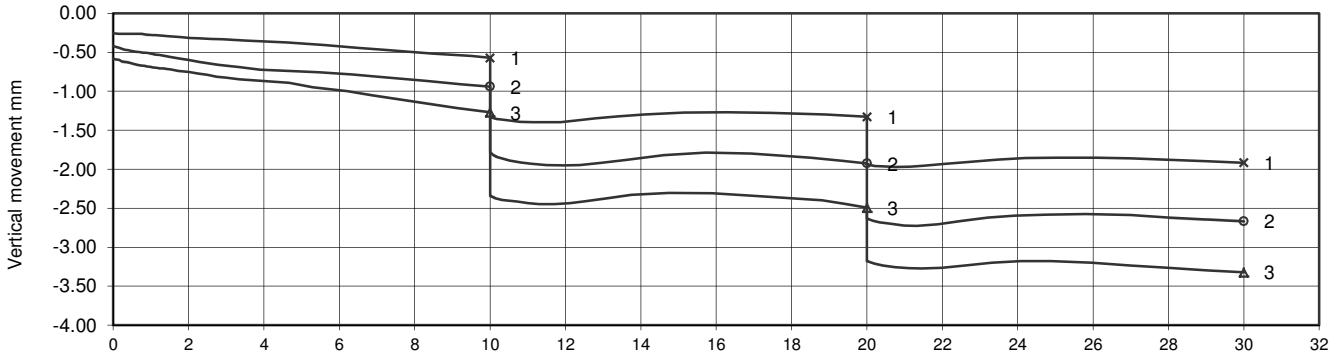
**Determination of shear strength by direct shear ( Small shearbox apparatus )  
( BS1377 : Part 7 : clause 4 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No.	WS102		
Project Name	LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	3.00 - 4.00		
			Sample No	19	Type	X
			ID			
			Spec Ref			

**Consolidation stage(s)**



**Shearing stage(s)**



**Determination of shear strength by direct shear ( Small shearbox apparatus )  
( BS1377 : Part 7 : clause 4 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No.	WS202		
Project Name	London Paramount Entertainment Resort		Depth (m BGL)	2.00 - 3.00		
			Sample No	12	Type	X
			ID			
			Spec Ref			

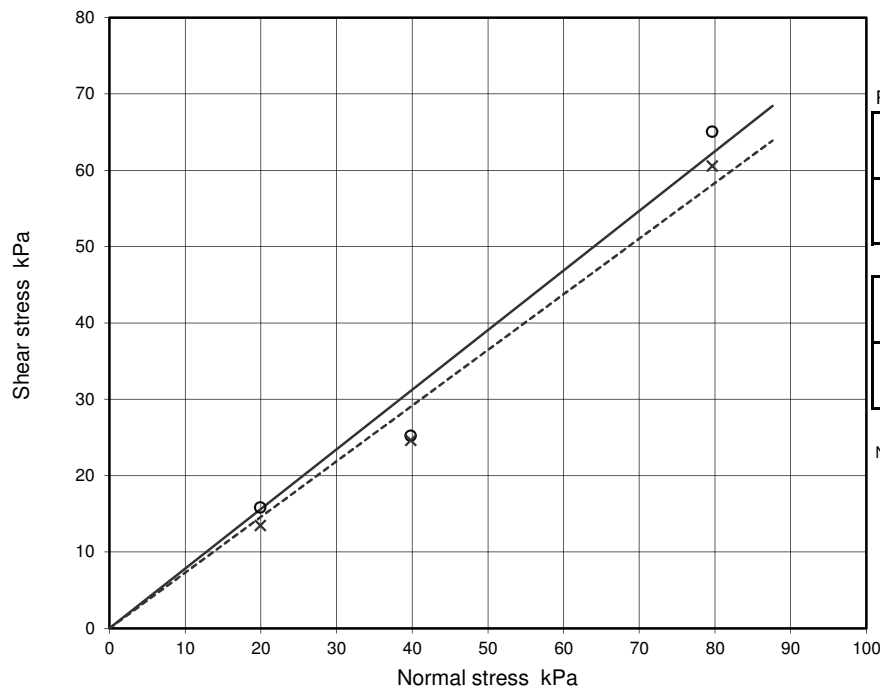
Soil Description	Light greyish brown slightly sandy slightly gravelly SILT.
Specimen Type /Preparation	-2mm material. Recompacted to a medium dense state at as received moisture content.

Specimen(s) nominally 60mm x 60mm square  
 Test(s) carried out in submerged condition  
 Particle density, assumed 2.65 Mg/m<sup>3</sup>

Specimen Details		No.	1	2	3	4	5	6
Initial	Height	mm	25.0	25.0	25.0			
	Bulk Density	Mg/m <sup>3</sup>	1.33	1.33	1.33			
	Water Content	%	56.5	56.6	56.6			
	Dry density	Mg/m <sup>3</sup>	0.85	0.85	0.85			
	Voids ratio		2.120	2.122	2.122			
	Degree of Saturation	%	71	71	71			
Consol <sup>1</sup>	Consolidation / Normal Stress applied	kPa	20	40	80			
	Change in height during consolidation	mm	-0.132	-0.224	-0.578			
	Voids ratio after consolidation		2.103	2.094	2.050			
Shear see note 1	Voids ratio at end of test		2.059	2.089	1.972			
	Moisture content at end of test	%	73.7	71.8	68.9			
	Saturation at end of test	%	95	91	93			

**Shearing stage**

Rate of displacement	Peak	mm/min	0.059	0.059	0.059			
	Residual	mm/min	0.148	0.148	0.148			
Peak values, (o)	Relative displacement	mm	1.20	3.02	3.77			
	Shear stress	kPa	15.8	25.2	65.1			
Residual values, (x)	No. of reversals		2	2	2			
	Relative displacement	mm	2.34	5.62	6.15			
	Shear stress	kPa	13.5	24.6	60.6			



**Shear Strength Parameters**

Peak strength, (o)		Regression	Manual
c'	kPa	( -4.1 )	0.0
Ø'	degrees	( 40½ )	38

Residual strength, (x)		Regression	Manual
c' <sub>R</sub>	kPa	( -4.5 )	0.0
Ø' <sub>R</sub>	degrees	( 39 )	36

Notes :

1 After shear values based on BS1377. Pt 7 cl. 4.6.1.6 using δH calculated from consolidation and shear stages

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**Figure**

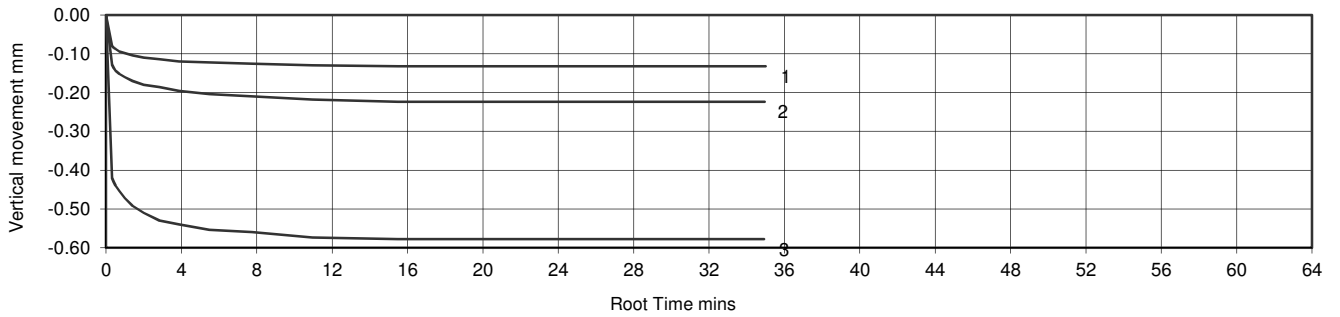
**SSB**

sheet 1 of 2

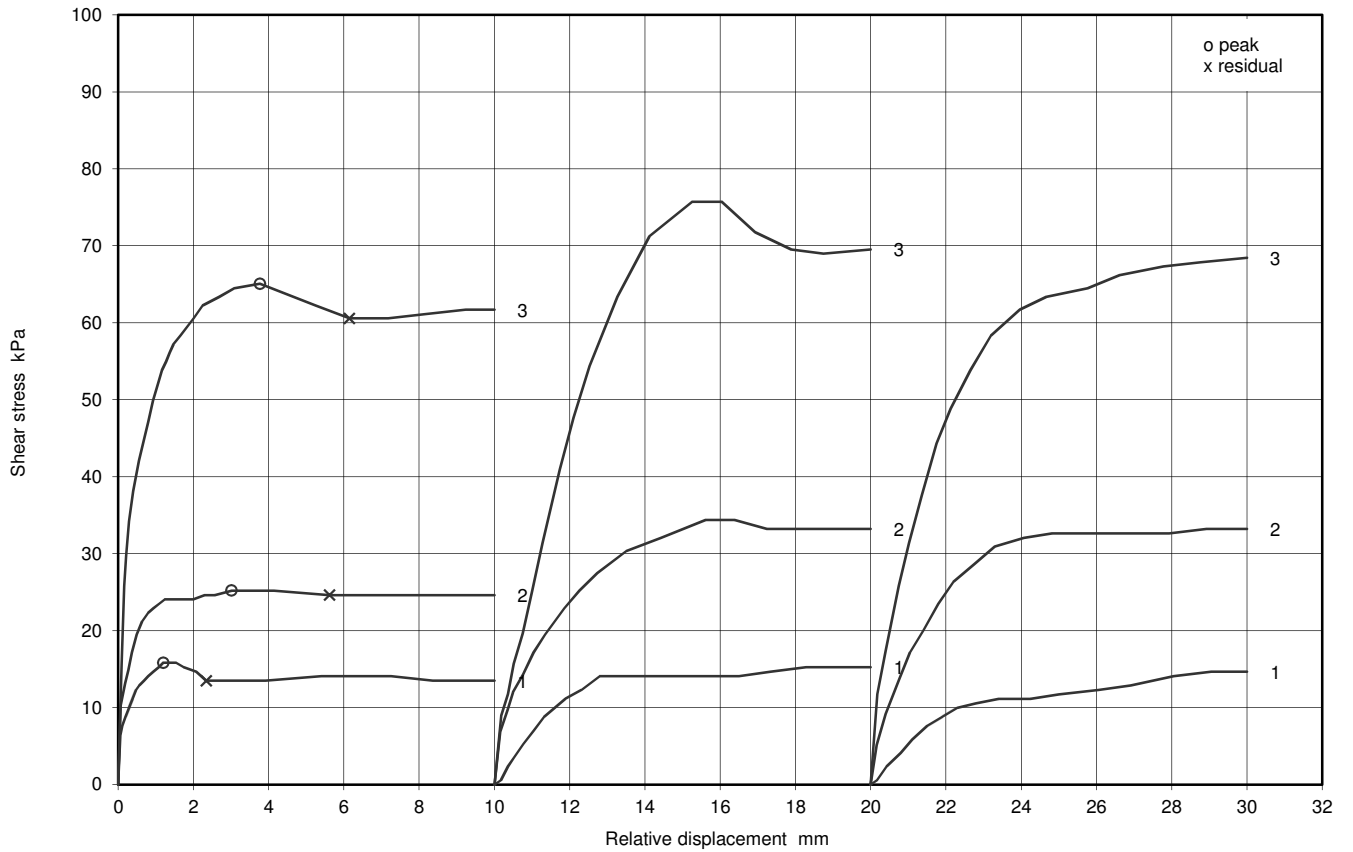
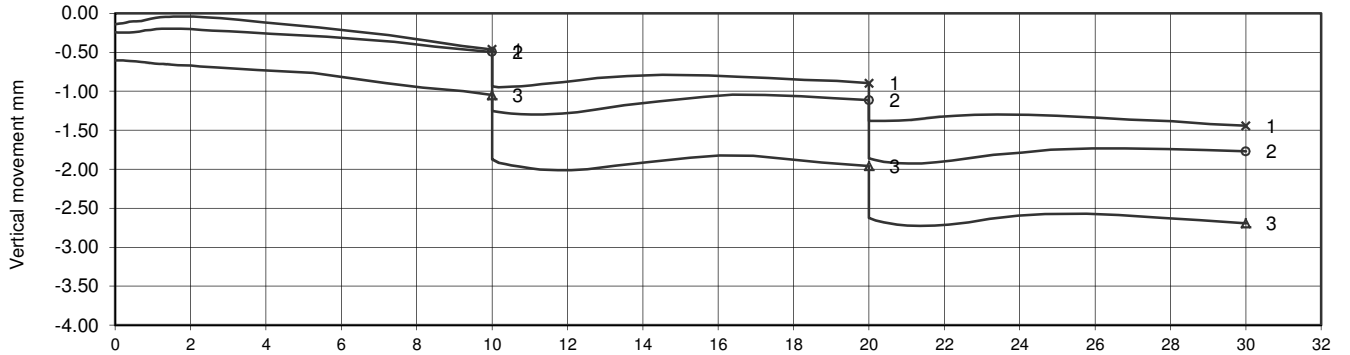
## Determination of shear strength by direct shear ( Small shearbox apparatus ) ( BS1377 : Part 7 : clause 4 : 1990 )

Project No	N5110-15	Sample Details:	Hole No.	WS202	
Project Name	London Paramount Entertainment Resort		Depth (m BGL)	2.00 - 3.00	
		Sample No	12	Type	X
		ID			
		Spec Ref			

### Consolidation stage(s)



### Shearing stage(s)



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Figure

**SSB**

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**Determination of shear strength by direct shear ( Small shearbox apparatus )  
( BS1377 : Part 7 : clause 4 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No.	WS202		
Project Name	London Paramount Entertainment Resort		Depth (m BGL)	9.00 - 10.00		
			Sample No	36	Type	X
			ID			
			Spec Ref			

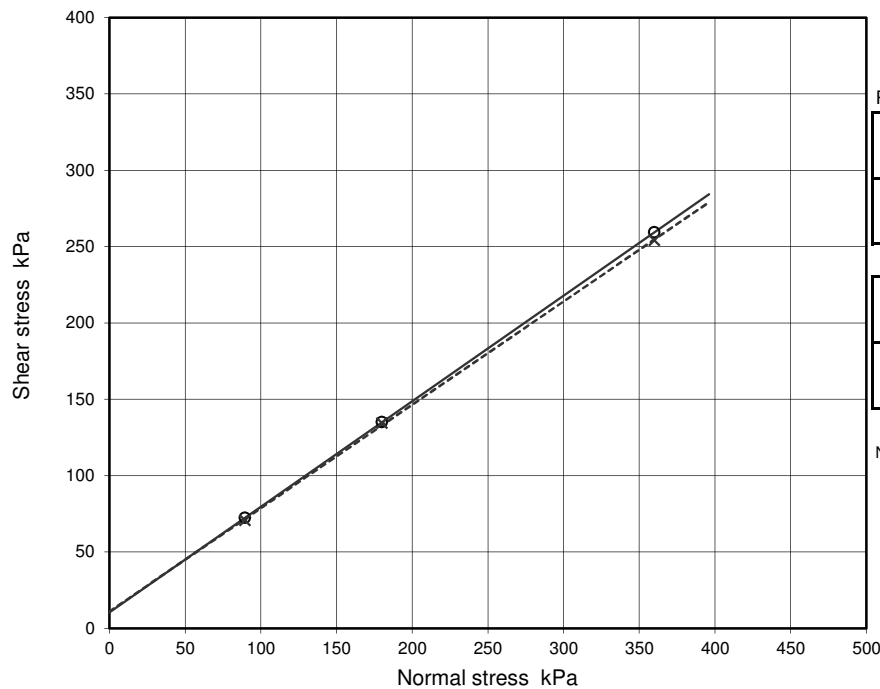
Soil Description	Light brown and cream slightly gravelly sandy SILT.
Specimen Type /Preparation	-2mm material. Recompacted to a medium dense state at as received moisture content.

Specimen(s) nominally 60mm x 60mm square  
 Test(s) carried out in submerged condition  
 Particle density, assumed 2.65 Mg/m<sup>3</sup>

Specimen Details		No.	1	2	3	4	5	6
Initial	Height	mm	25.0	25.0	25.0			
	Bulk Density	Mg/m <sup>3</sup>	1.24	1.24	1.24			
	Water Content	%	47.4	48.4	48.2			
	Dry density	Mg/m <sup>3</sup>	0.84	0.83	0.84			
	Voids ratio		2.153	2.174	2.169			
	Degree of Saturation	%	58	59	59			
Consol <sup>n</sup>	Consolidation / Normal Stress applied	kPa	<b>90</b>	<b>180</b>	<b>360</b>			
	Change in height during consolidation	mm	-1.796	-3.180	-3.830			
	Voids ratio after consolidation		1.927	1.771	1.683			
Shear see note 1	Voids ratio at end of test		1.785	1.577	1.470			
	Moisture content at end of test	%	67.3	59.5	55.5			
	Saturation at end of test	%	100	100	100			

**Shearing stage**

Rate of displacement	Peak	mm/min	0.010	0.010	0.010			
	Residual	mm/min	0.026	0.026	0.026			
Peak values, (o)	Relative displacement	mm	8.04	7.56	7.22			
	Shear stress	kPa	72.3	135.1	259.4			
Residual values, (x)	No. of reversals		2	2	2			
	Relative displacement	mm	10.00	10.00	10.00			
	Shear stress	kPa	70.8	134.4	254.2			



**Shear Strength Parameters**

Peak strength, (o)		Regression	Manual
c'	kPa	10	-
Ø'	degrees	34½	-

Residual strength, (x)		Regression	Manual
c' <sub>R</sub>	kPa	11	-
Ø' <sub>R</sub>	degrees	34	-

Notes :

1 After shear values based on BS1377. Pt 7 cl. 4.6.1.6 using δH calculated from consolidation and shear stages

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**Figure**

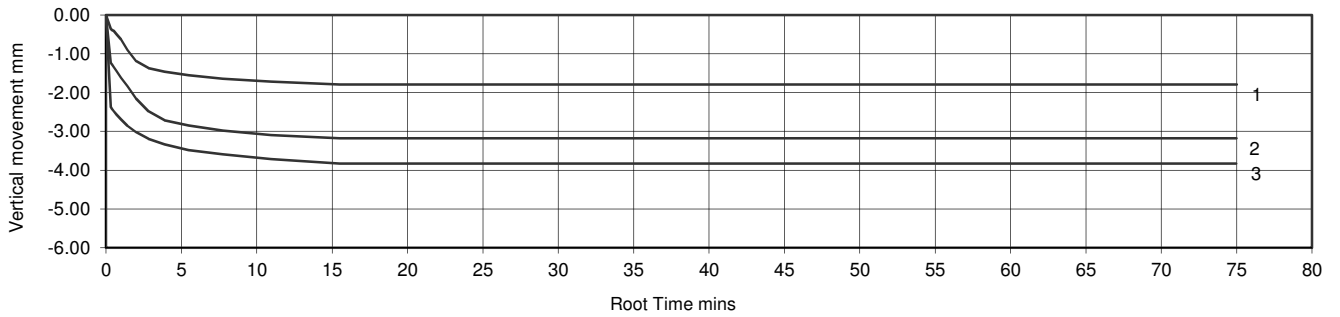
**SSB**

sheet 1 of 2

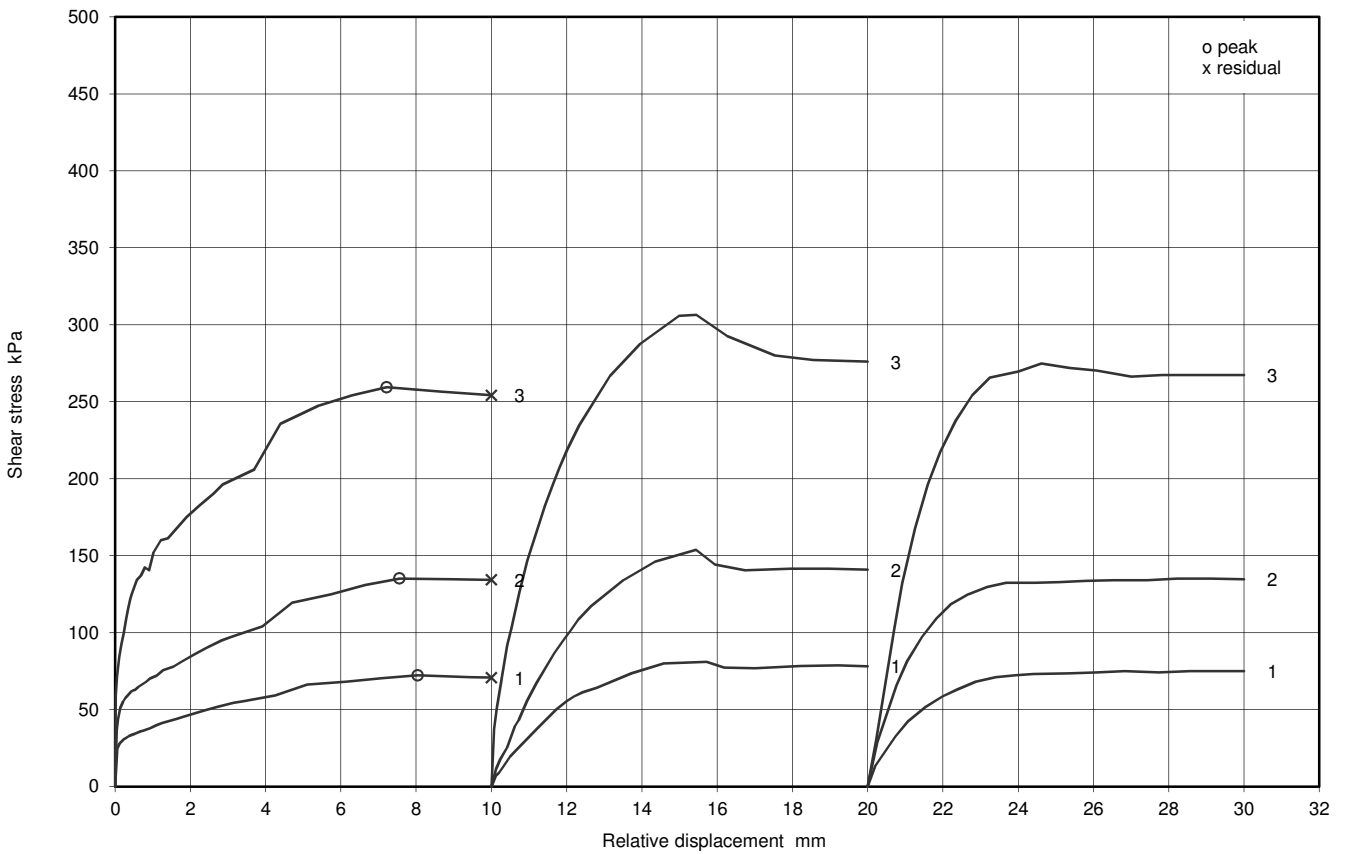
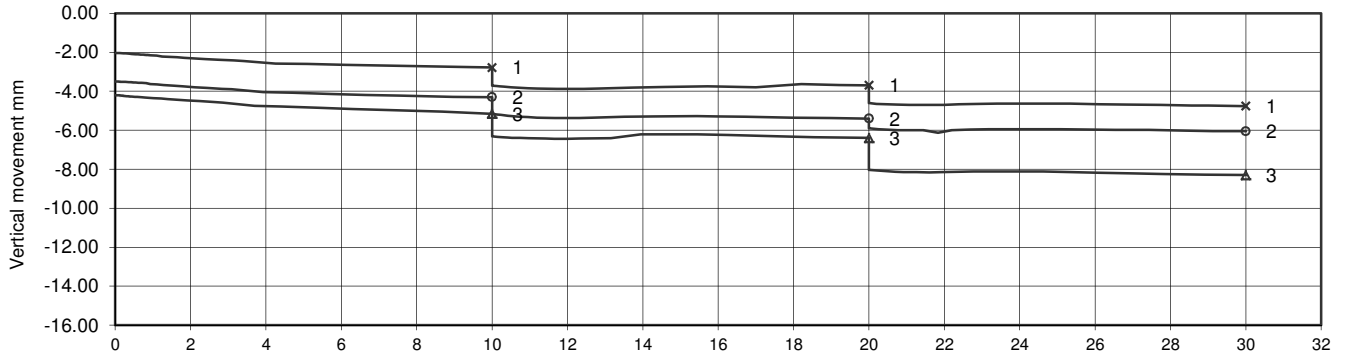
## Determination of shear strength by direct shear ( Small shearbox apparatus ) ( BS1377 : Part 7 : clause 4 : 1990 )

Project No	N5110-15	Sample Details:	Hole No.	WS202	
Project Name	London Paramount Entertainment Resort		Depth (m BGL)	9.00 - 10.00	
		Sample No	36	Type	X
		ID			
		Spec Ref			

### Consolidation stage(s)



### Shearing stage(s)



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Figure

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**Determination of shear strength by direct shear ( Small shearbox apparatus )  
( BS1377 : Part 7 : clause 4 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No.	WS203		
Project Name	London Paramount Entertainment Resort		Depth (m BGL)	1.20 - 2.00		
			Sample No	8	Type	X
			ID			
			Spec Ref			

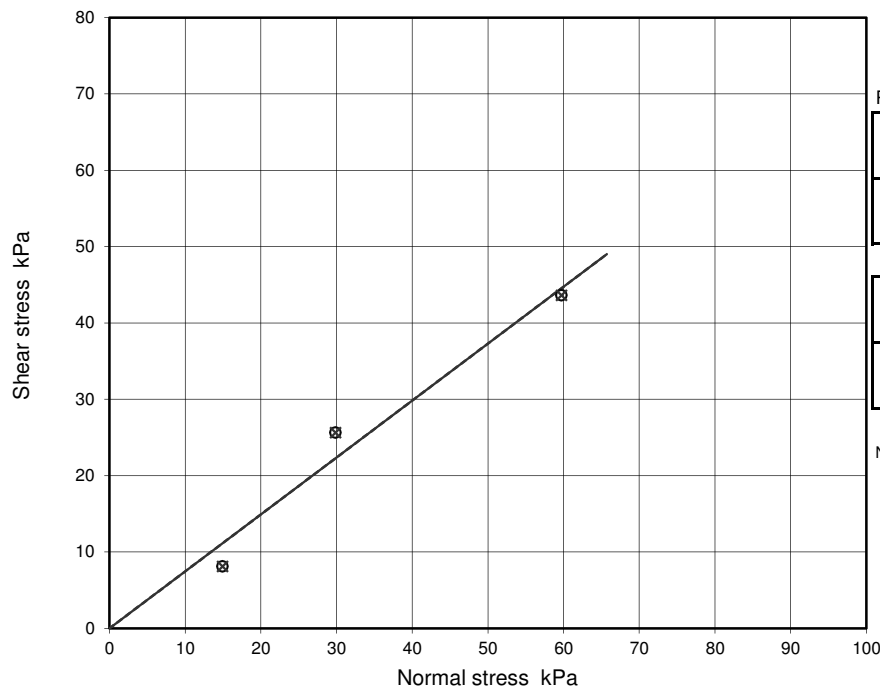
Soil Description	Light brown slightly sandy slightly gravelly SILT.
Specimen Type /Preparation	-2mm material. Recompacted to a medium dense state at as received moisture content.

Specimen(s) nominally 60mm x 60mm square  
 Test(s) carried out in submerged condition  
 Particle density, assumed 2.65 Mg/m<sup>3</sup>

Specimen Details		No.	1	2	3	4	5	6
Initial	Height	mm	25.0	25.0	25.0			
	Bulk Density	Mg/m <sup>3</sup>	1.29	1.29	1.29			
	Water Content	%	58.4	58.7	58.4			
	Dry density	Mg/m <sup>3</sup>	0.81	0.81	0.81			
	Voids ratio		2.252	2.258	2.252			
	Degree of Saturation	%	69	69	69			
Consol <sup>1</sup>	Consolidation / Normal Stress applied	kPa	15	30	60			
	Change in height during consolidation	mm	-0.090	-0.240	-0.476			
	Voids ratio after consolidation		2.240	2.227	2.190			
Shear see note 1	Voids ratio at end of test		2.268	2.133	2.032			
	Moisture content at end of test	%	75.3	74.2	72.4			
	Saturation at end of test	%	88	92	94			

**Shearing stage**

Rate of displacement	Peak	mm/min	0.032	0.032	0.032			
	Residual	mm/min	0.081	0.081	0.081			
Peak values, (o)	Relative displacement	mm	7.07	10.24	10.26			
	Shear stress	kPa	8.1	25.6	43.6			
Residual values, (x)	No. of reversals		2	2	2			
	Relative displacement	mm	8.28	10.24	10.26			
	Shear stress	kPa	8.1	25.6	43.6			



**Shear Strength Parameters**

Peak strength, (o)		Regression	Manual
c'	kPa	( -0.9 )	0.0
Ø'	degrees	( 37½ )	36½

Residual strength, (x)		Regression	Manual
c' <sub>R</sub>	kPa	( -0.9 )	0.0
Ø' <sub>R</sub>	degrees	( 37½ )	36½

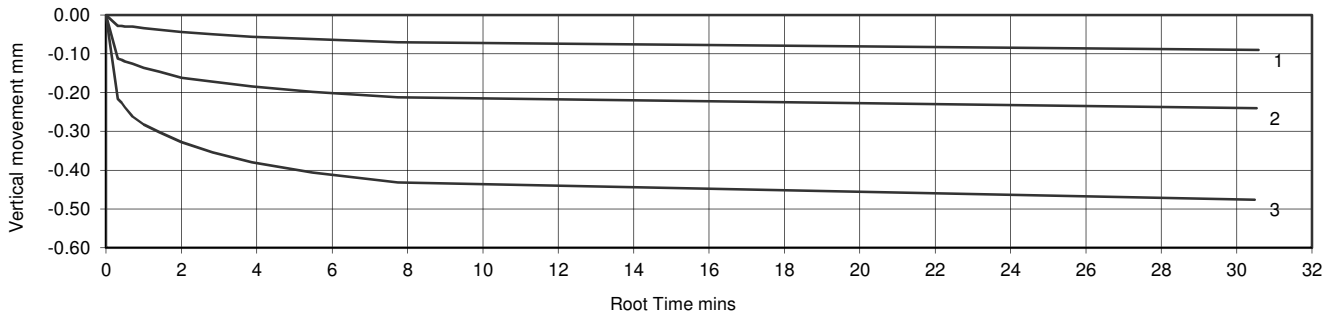
Notes :

1 After shear values based on BS1377. Pt 7 cl. 4.6.1.6 using δH calculated from consolidation and shear stages

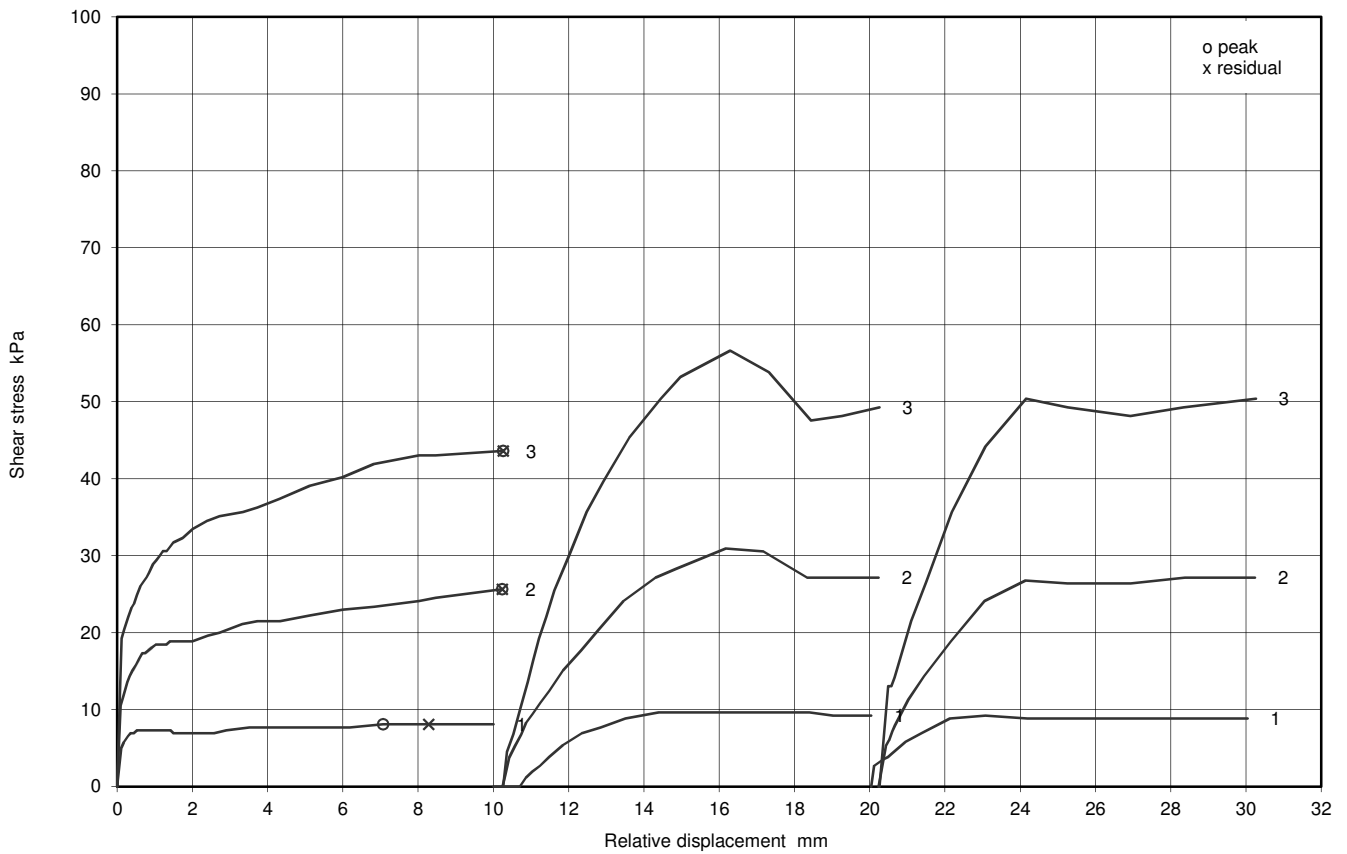
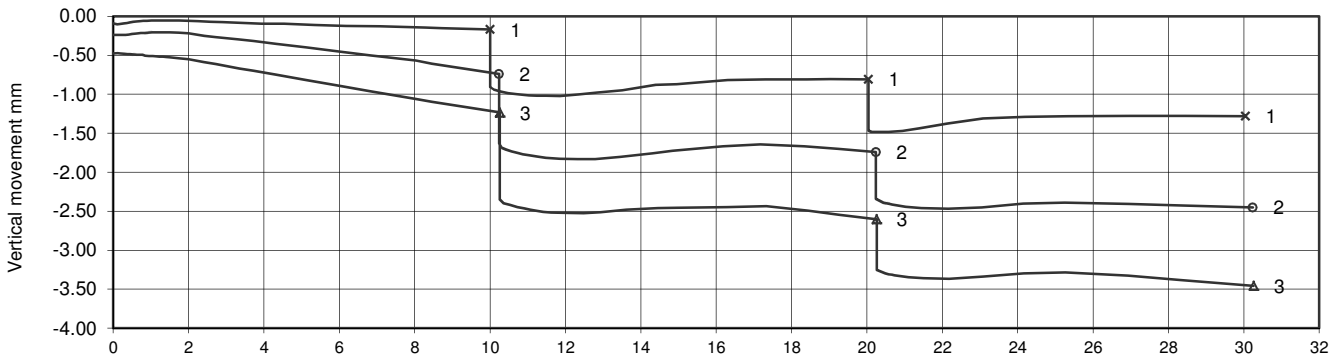
**Determination of shear strength by direct shear ( Small shearbox apparatus )  
( BS1377 : Part 7 : clause 4 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No.	WS203		
Project Name	London Paramount Entertainment Resort		Depth (m BGL)	1.20 - 2.00		
			Sample No	8	Type	X
			ID			
			Spec Ref			

**Consolidation stage(s)**



**Shearing stage(s)**



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Figure

**SSB**

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# UNDRAINED TRIAXIAL COMPRESSION



BS.1377 : Part 7 : 1990 : 8 and 9

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample		specimen depth (m)	code	moisture content (%)	density		cell pressure (kPa)	deviator stress (kPa)	failure strain (%)	failure mode	shear strength* (kPa)	description and remarks
	no./ type	depth (m)				bulk (Mg/m <sup>3</sup> )	dry (Mg/m <sup>3</sup> )						
BH101	32UT	7.20	7.40	UU100	64.0	1.49	0.91	150	21	7.8	I	11	Brownish grey slightly sandy silty organic CLAY with rare rootlets
BH101	50UT	12.00	12.20	UUM100	73.1	1.50	0.87	120 240 480	20 28 36	1.9 6.3 9.7	I	10 14 18	Brownish grey slightly sandy silty organic CLAY with rare rootlets
BH204	32UT	10.00	10.10	UU100	23.5	2.14	1.73	200	42	16.0	B	21	Greyish brown slightly sandy silty CLAY
WS203	11U	2.00	2.20	UU70	48.8	1.70	1.14	44	1280	1.8	S	640	Brownish grey sandy gravelly SILT

general remarks: \* shear strength taken as half deviator stress at failure for each stage.  
# denotes sample unsuitable to test.

code:  
 CD - Consolidated drained      M - Multistage      38 - 38mm dia. x 76mm  
 CU - Consolidated undrained    S - Set of 3 specimens    70 - 69mm dia. x 140mm  
 UU - Unconsolidated undrained   R - Remoulded      100 - 106mm dia. x 200mm

failure mode:  
 B - barrelling (plastic failure)    I - intermediate  
 S - shear (brittle failure)        O - other (see remarks)

membrane correction applied  
 sample taken vertically (unless specified)  
 rate of strain = 2%/min (unless specified)

membrane thickness:  
 38 - 0.2mm    70 - 0.4mm  
 106 - 0.4mm

CONTRACT  
**30766**

CHECKED  
**SR**

1731 - UUTXL BH204 05:20 UT21 U - 22927-126177.XL-SM

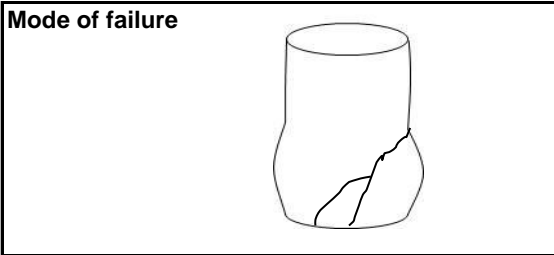
## Quick Undrained Triaxial Compression Test

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">BH/TP No</td> <td>BH204</td> </tr> <tr> <td>Sample Ref</td> <td>UT21</td> </tr> <tr> <td>Depth (m)</td> <td>5.20-5.65</td> </tr> <tr> <td>Sample Type</td> <td>U</td> </tr> </table>	BH/TP No	BH204	Sample Ref	UT21	Depth (m)	5.20-5.65	Sample Type	U	<p><b>Description:</b></p> <p>Soft to firm grey CLAY with rare fine sand and some patches of black organic rich material.</p>
BH/TP No	BH204								
Sample Ref	UT21								
Depth (m)	5.20-5.65								
Sample Type	U								

**Specimen Details**

Specimen conditions	Undisturbed
Length (mm)	200.1
Diameter (mm)	100.9
Moisture Content (%)	60
Bulk Density (Mg/m <sup>3</sup> )	1.69
Dry Density (Mg/m <sup>3</sup> )	1.06
<b>Test Details</b>	
Latex membrane thickness (mm)	0.3
Membrane correction (kPa)	0.7
Axial displacement rate (%/min)	2.0
Cell pressure (kPa)	110
Strain at failure (%)	11.0
Maximum Deviator Stress (kPa)	51
Shear Stress Cu (kPa)	26

**Mode of failure**



Orientation of the sample	Vertical
Distance from top of tube mm	150

GL:Version 1.47 - 14/07/2015

<p>Checked and Approved by:</p> <p style="text-align: center; font-size: small;">Operations Manager 17/08/2015</p>	<p>Project Number:</p> <p style="font-size: large; font-weight: bold;">GEO / 22927</p> <p>Project Name:</p> <p style="font-size: large; font-weight: bold;">LONDON PARAMOUNT ENTERTAINMENT RESORT 30766</p>
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**UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TESTS WITHOUT MEASUREMENT OF PORE PRESSURE - SUMMARY OF RESULTS**

Project No		Project Name															
N5110-15		LONDON PARAMOUNT ENTERTAINMENT RESORT															
Hole No.	Sample				Soil Description	Density		w	Test type	Dia.	$\sigma_3$	At failure / end of stage					Remarks
	No.	Depth (m)		type		bulk	dry					Axial strain	$\sigma_1 - \sigma_3$	$C_u$	M O D E		
		from	to			Mg/m <sup>3</sup>	%			mm	kPa	%	kPa	kPa			
BH101	12	2.20	2.65	UT	Firm dark brown mottled black organic CLAY.	1.39	0.67	109	UU	103.0	50	4.5	53	27	P		
BH201	23	6.70	7.15	UT	Stiff brownish grey slightly sandy clayey SILT.	1.60	0.95	69	UU	103.1	140	11.4	192	96	C		
BH202	13	2.20	2.60	UT	Stiff light greyish brown CHALK	1.35	0.64	110	UU	103.3	50	5.5	347	173	B		

General notes: Tests carried out in accordance with BS1377: Part 7: 1990, clause 8 for single stage, clause 9 for multistage tests. Specimens nominally 2:1 height diameter ratio and tested at a rate of strain of 2%/minute, unless annotated otherwise. See individual test reports for further details.




Legend

UU - single stage test ( may be in sets of specimens )	$\sigma_3$	cell pressure	Mode of failure	P	plastic
UUM - multistage test on a single specimen	$\sigma_1 - \sigma_3$	deviator stress		B	brittle
suffix R - remoulded or recompactd	$C_u$	undrained shear strength		C	compound

QA Ref SLR 2 Rev 71 Mar 12		Printed:02/09/2015 10:32	Table <b>UUSUM 1</b>
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## Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101	Description: Soft grey organic silty CLAY with rare fine gravel.
Depth (m): 5.20-5.65	

<b>SPECIMEN DETAILS</b> Depth within original sample Orientation within original sample	20 mm from top Vertical		
<b>TEST DETAILS</b> Specimen Type and Preparation Cell Preparation Specimen Number Initial Diameter <i>mm</i> Initial Length <i>mm</i> Initial Moisture Content % Initial Wet Density <i>Mg/m<sup>3</sup></i> Drainage Conditions	UT (Undisturbed) Checks performed in accordance with Clause 3.5		
	<b>Specimen No. 1</b>	<b>Specimen No. 2</b>	<b>Specimen No. 3</b>
Initial Diameter <i>mm</i>	37.65	37.55	37.67
Initial Length <i>mm</i>	75.99	76.00	75.98
Initial Moisture Content %	108	99	102
Initial Wet Density <i>Mg/m<sup>3</sup></i>	1.43	1.48	1.45
Drainage Conditions	One end and radial boundary		
<b>SATURATION STAGE</b>	Method: Clause 5.2	Method: Clause 5.3	Method: Clause 5.2 & 5.3
Final Cell Pressure <i>kPa</i>	350	400	500
Final Pore Pressure <i>kPa</i>	346	393	483
Final Pore Pressure Parameter B	0.98	0.97	0.95
Duration <i>day(s)</i>	2	2	2
<b>CONSOLIDATION STAGE</b>			
Cell Pressure <i>kPa</i>	350	400	500
Back Pressure <i>kPa</i>	300	300	300
Effective Pressure <i>kPa</i>	50	100	200
Final Pore Pressure <i>kPa</i>	300	300	300
Final Pore Pressure Dissipation %	100	100	100
Duration <i>day(s)</i>	4	4	5
<b>SHEARING STAGE</b>			
Cell Pressure <i>kPa</i>	350	400	500
Rate of Axial Displacement <i>mm/min</i>	0.00060	0.00060	0.00048
Initial Pore Pressure <i>kPa</i>	300	300	300
Initial Effective Stress <i>kPa</i>	50	100	200
<b>CONDITIONS AT FAILURE</b> <i>criteria</i>	Maximum deviator stress		
Pore Pressure <i>kPa</i>	299	296	296
Minor Effective Principal Stress <i>kPa</i>	51	104	204
Deviator Stress <i>kPa</i>	80	126	218
Major Effective Principal Stress <i>kPa</i>	131	230	422
Volume Change <i>mL</i>	7.40	4.14	5.55
Volumetric Strain %	10.7	6.4	8.8
Axial Strain %	20.6	20.9	18.8
Correction applied to Deviator Stress <i>kPa</i>	17	14	14
Duration <i>day(s)</i>	17	20	22
Final Moisture Content %	66	57	56
Final Wet Density <i>Mg/m<sup>3</sup></i>	1.52	1.63	1.67
<b>EFFECTIVE STRESS PARAMETERS</b>			
Cohesion <i>kPa</i>	12		
Angle of Shear Resistance <i>degrees</i>	18		
<b>FAILURE SKETCH</b>			

Object Number:

**GEO / 23014**

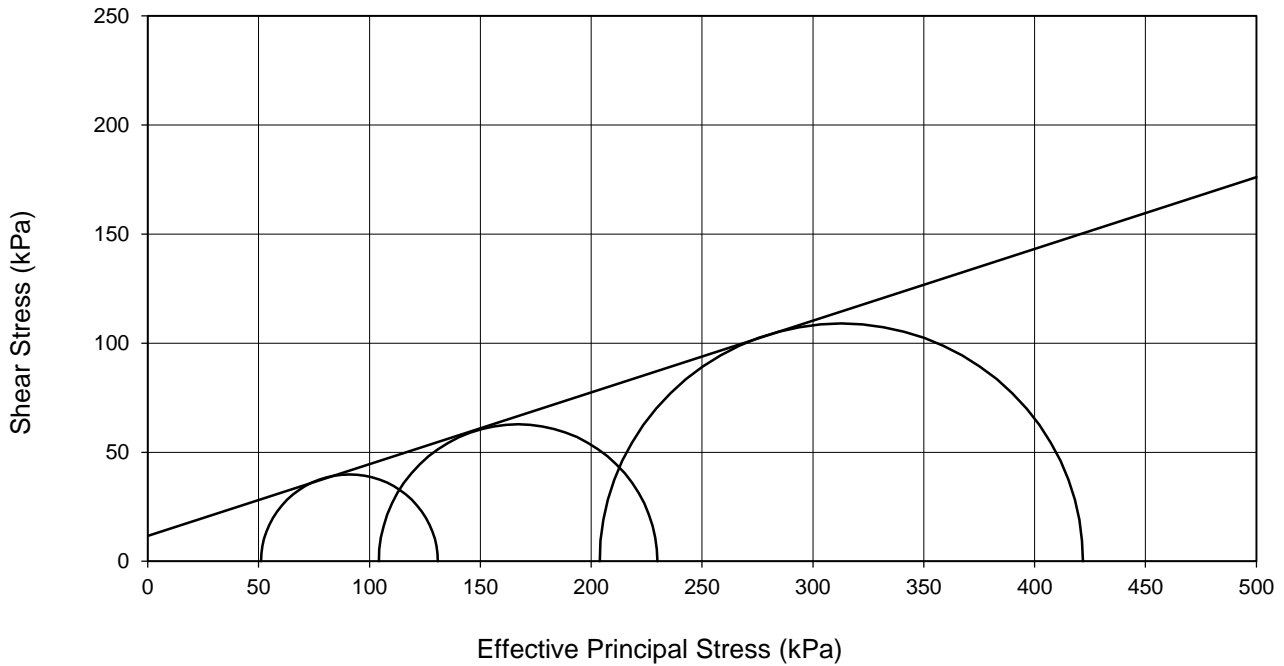
Object Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766****GEOLABS**®

# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 5.20-5.65

Description:  
Soft grey organic silty CLAY with rare fine gravel.



Project Number:

**GEO / 23014**

Project Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**

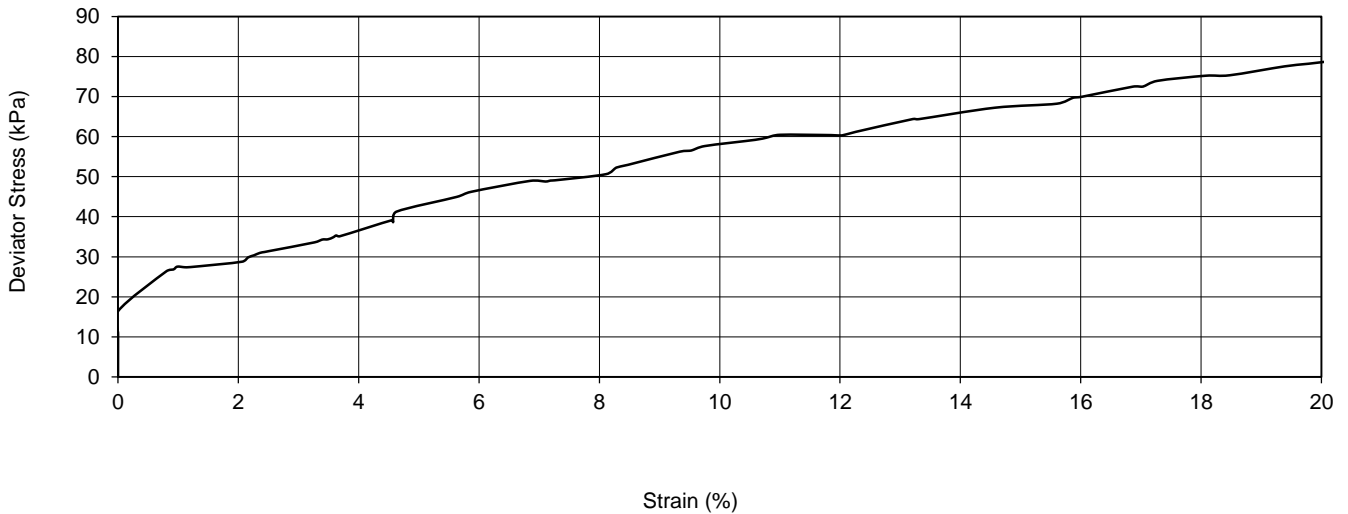
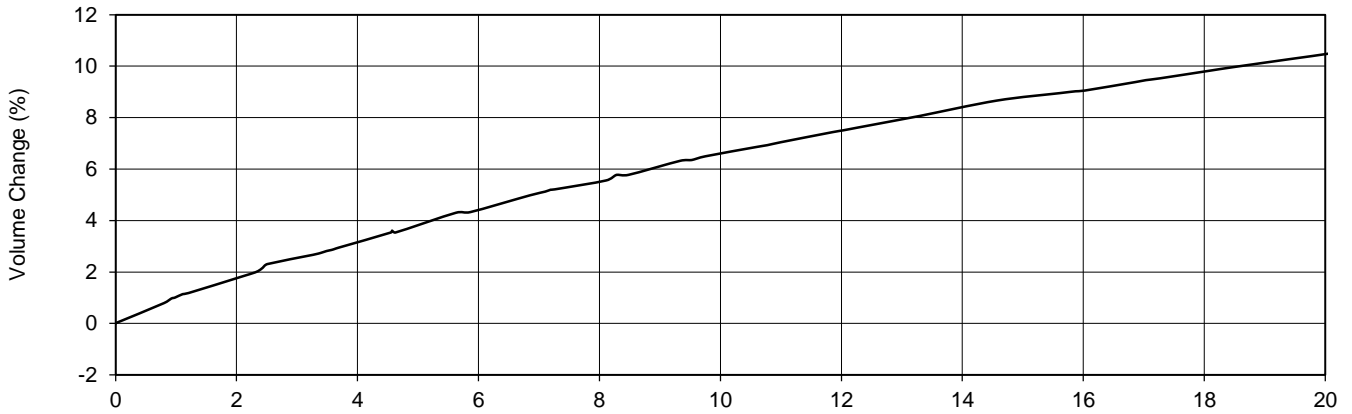
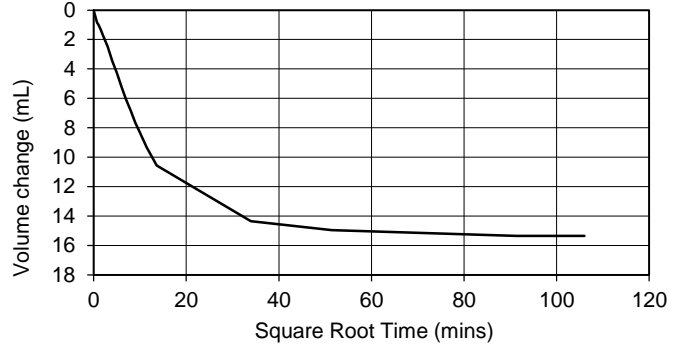
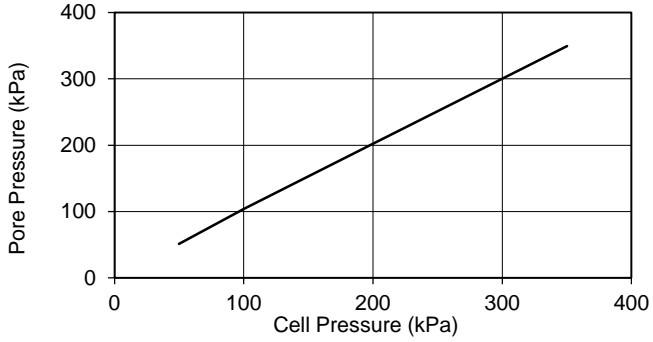
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# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 5.20-5.65

**Specimen 1**



Project Number:

**GEO / 23014**

Project Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**

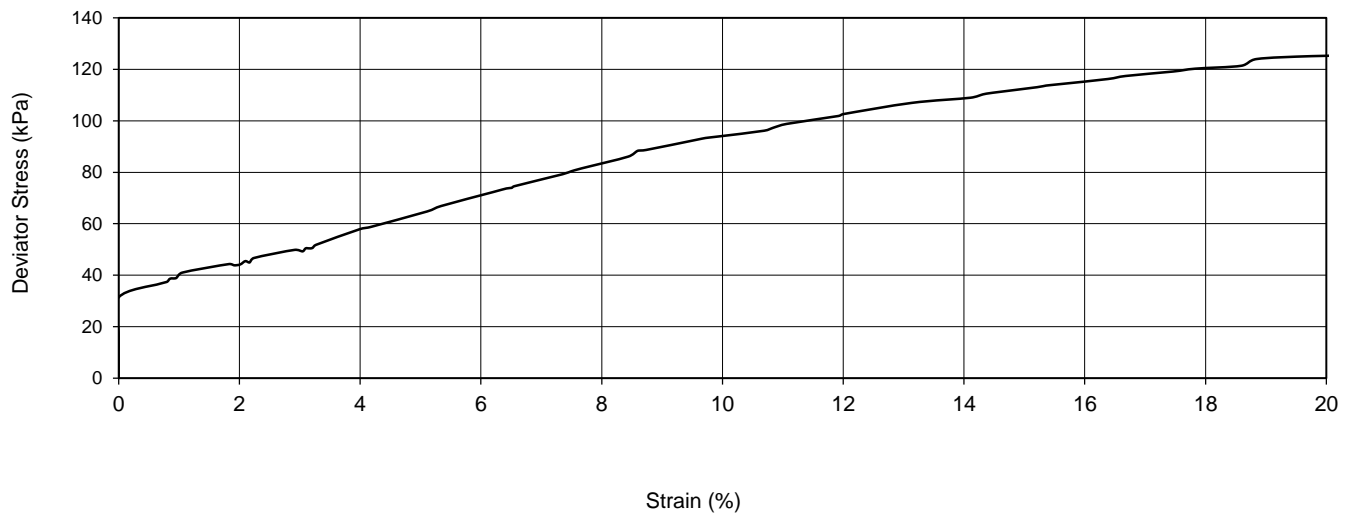
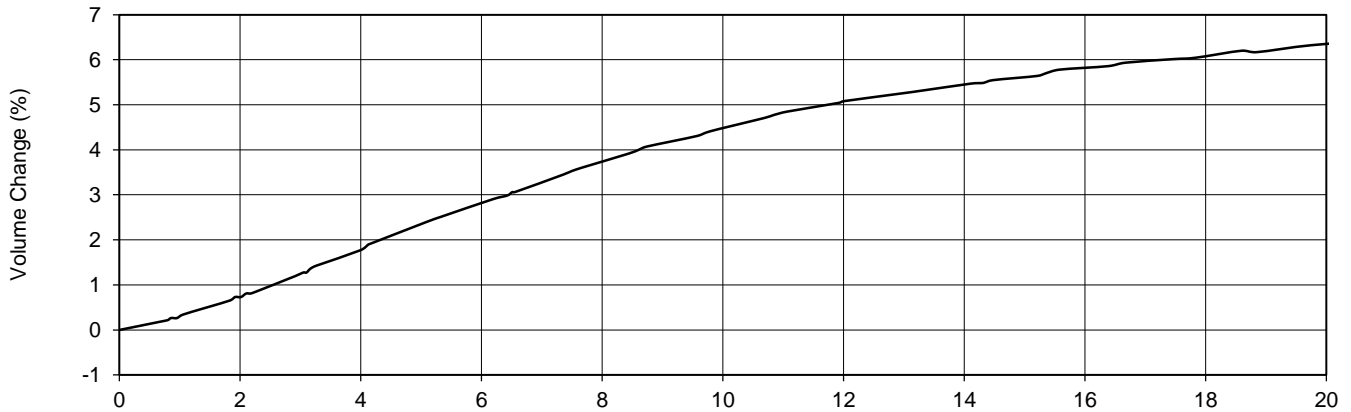
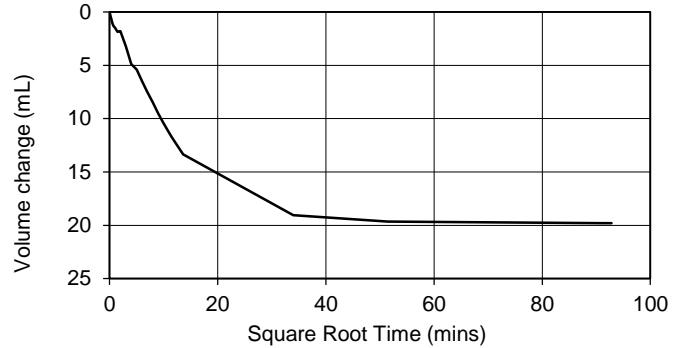
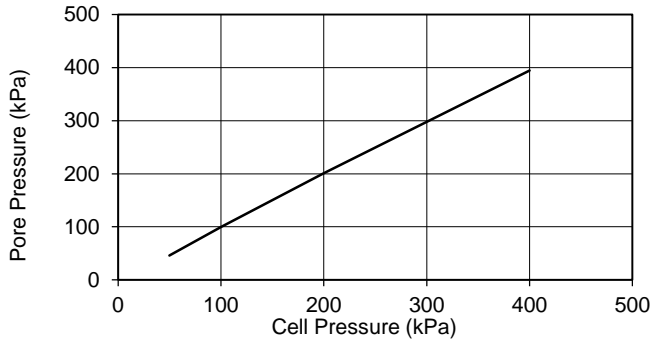
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## Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 5.20-5.65

**Specimen 2**



Project Number:

**GEO / 23014**

Project Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**

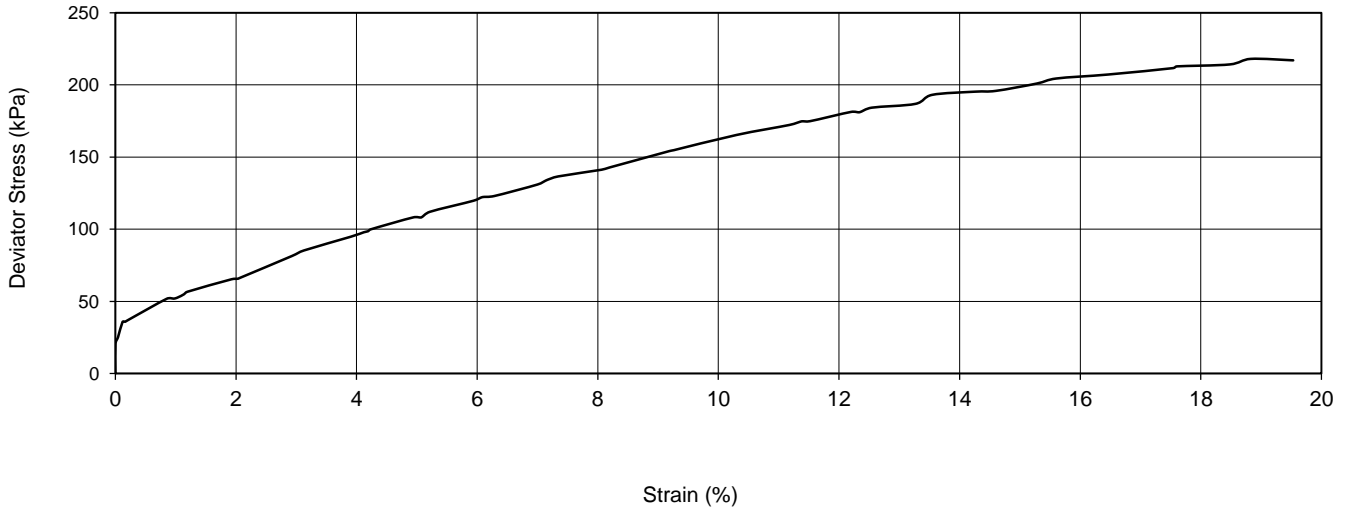
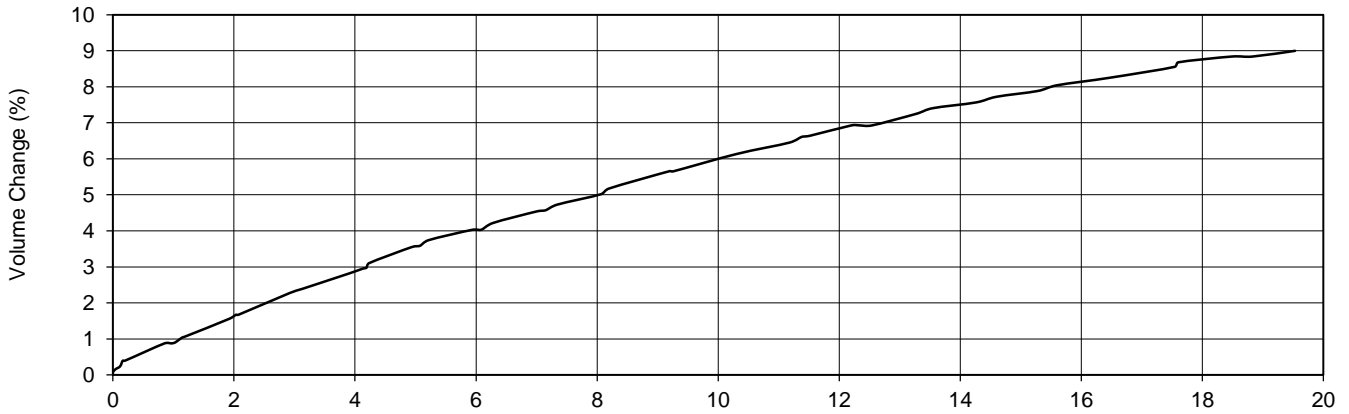
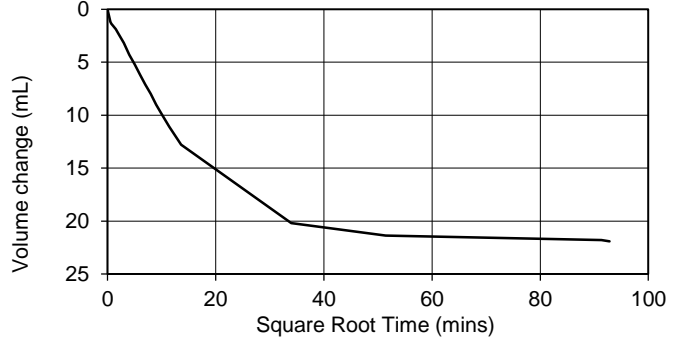
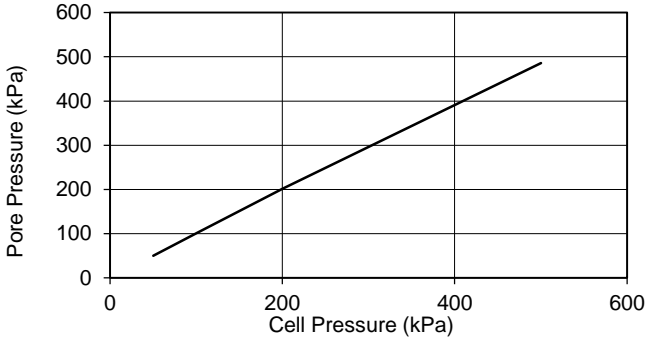
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# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 5.20-5.65

**Specimen 3**



Project Number:

**GEO / 23014**

Project Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**




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## Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101	Description: Soft to firm black fibrous PEAT.
Depth (m): 9.20-9.65	

<b>SPECIMEN DETAILS</b>	20 mm from top		
Depth within original sample	Vertical		
<b>TEST DETAILS</b>	UT (Undisturbed)		
Specimen Type and Preparation	Checks performed in accordance with Clause 3.5		
Cell Preparation			
Specimen Number	<b>Specimen No. 1</b>	<b>Specimen No. 2</b>	<b>Specimen No. 3</b>
Initial Diameter <i>mm</i>	37.52	37.38	37.48
Initial Length <i>mm</i>	76.53	76.53	76.48
Initial Moisture Content %	494	479	479
Initial Wet Density <i>Mg/m<sup>3</sup></i>	1.04	1.05	1.03
Drainage Conditions	One end and radial boundary		
<b>SATURATION STAGE</b>	Method: Clause 5.2	Method: Clause 5.3	Method: Clause 5.2 & 5.3
Final Cell Pressure <i>kPa</i>	390	480	660
Final Pore Pressure <i>kPa</i>	381	463	638
Final Pore Pressure Parameter B	1.00	0.98	1.00
Duration <i>day(s)</i>	2	2	2
<b>CONSOLIDATION STAGE</b>			
Cell Pressure <i>kPa</i>	390	480	660
Back Pressure <i>kPa</i>	300	300	300
Effective Pressure <i>kPa</i>	90	180	360
Final Pore Pressure <i>kPa</i>	301	305	309
Final Pore Pressure Dissipation %	99	97	97
Duration <i>day(s)</i>	6	7	6
<b>SHEARING STAGE</b>			
Cell Pressure <i>kPa</i>	390	480	660
Rate of Axial Displacement <i>mm/min</i>	0.00080	0.00080	0.00060
Initial Pore Pressure <i>kPa</i>	301	305	309
Initial Effective Stress <i>kPa</i>	89	176	351
<b>CONDITIONS AT FAILURE</b>	Maximum deviator stress		
Pore Pressure <i>kPa</i>	300	302	299
Minor Effective Principal Stress <i>kPa</i>	90	178	361
Deviator Stress <i>kPa</i>	144	327	582
Major Effective Principal Stress <i>kPa</i>	234	505	943
Volume Change <i>mL</i>	12.20	9.40	3.87
Volumetric Strain %	19.0	17.7	8.7
Axial Strain %	20.9	20.1	20.2
Correction applied to Deviator Stress <i>kPa</i>	18	18	19
Duration <i>day(s)</i>	16	16	19
Final Moisture Content %	262	194	164
Final Wet Density <i>Mg/m<sup>3</sup></i>	0.89	1.02	0.97
<b>EFFECTIVE STRESS PARAMETERS</b>			
Cohesion <i>kPa</i>	5.2		
Angle of Shear Resistance <i>degrees</i>	26.5		
<b>FAILURE SKETCH</b>			

Project Number:

GEO / 23014

Project Name:

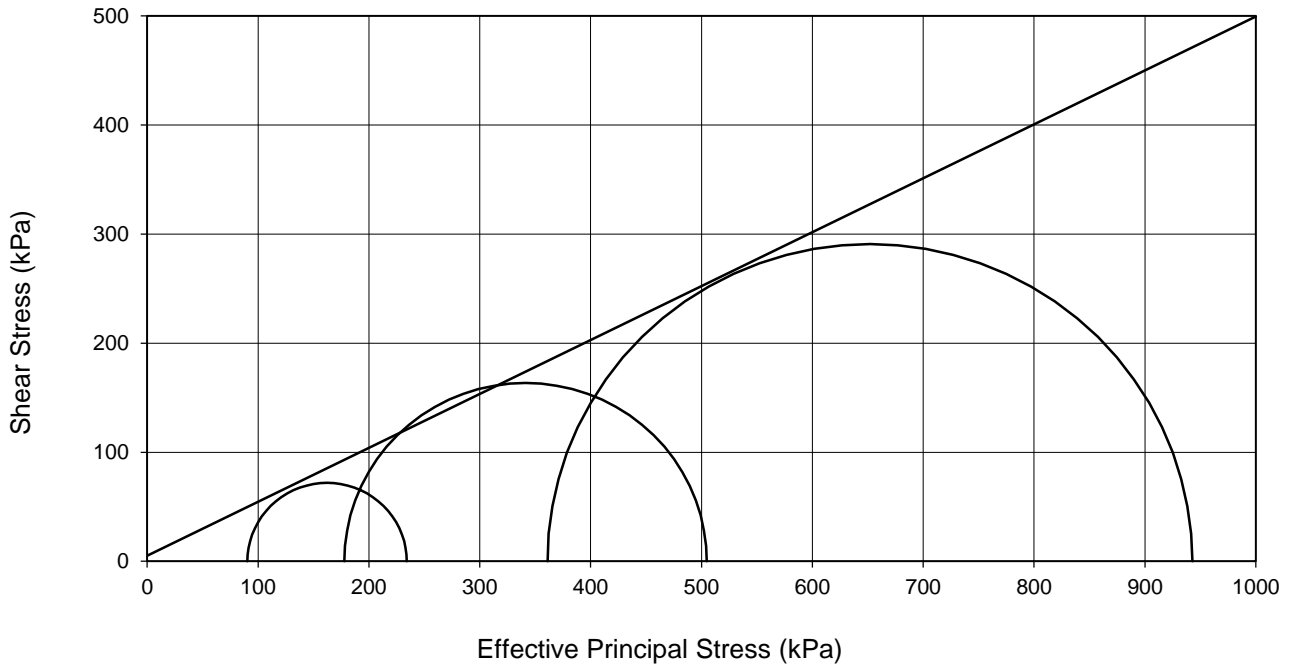
**LONDON PARAMOUNT ENTERTAINMENT RESORT  
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# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 9.20-9.65

Description:  
Soft to firm black fibrous PEAT.



Number:

**GEO / 23014**

Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**

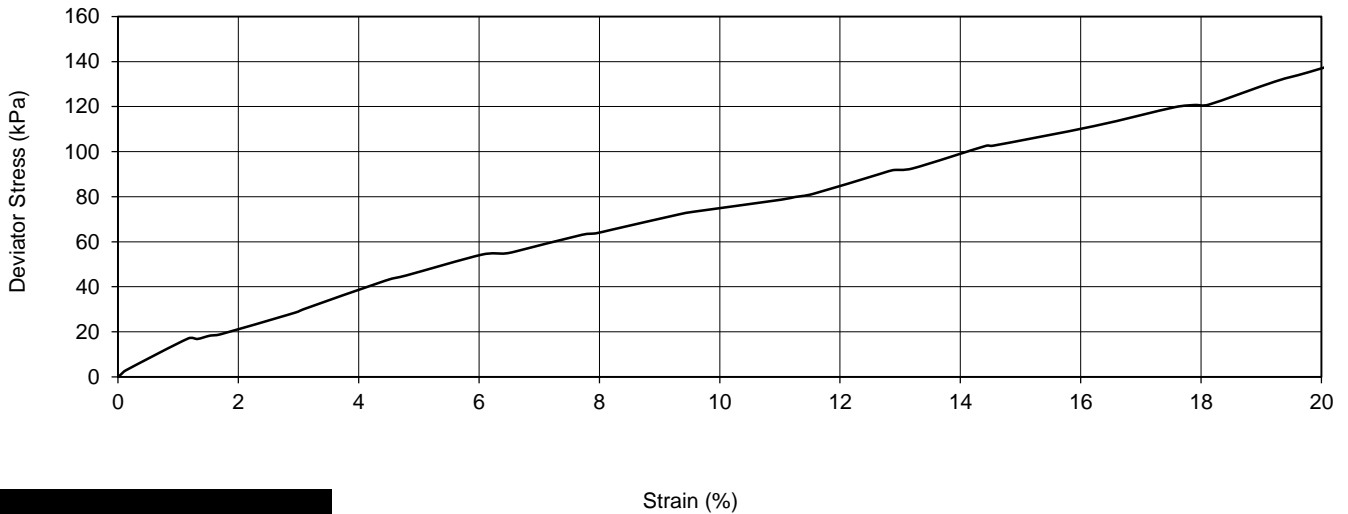
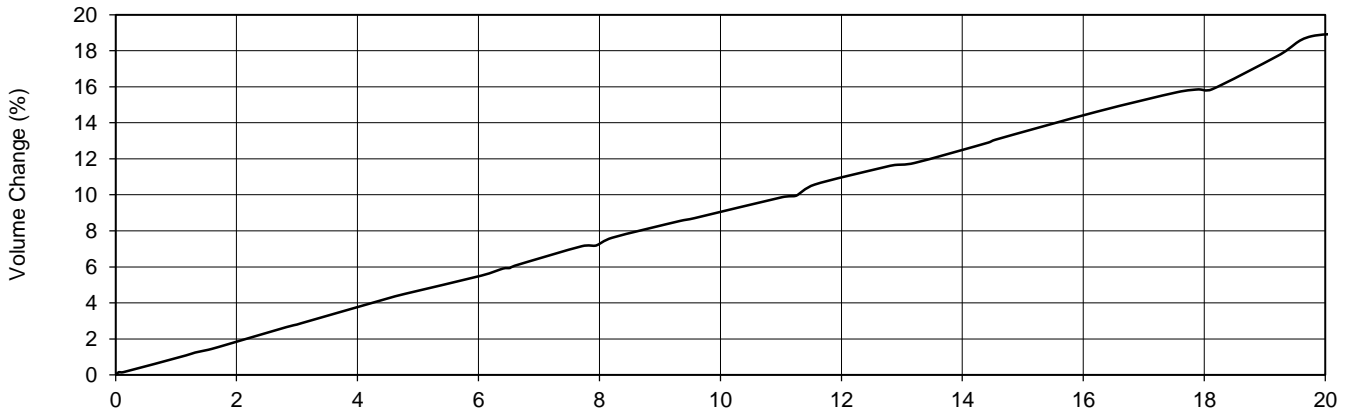
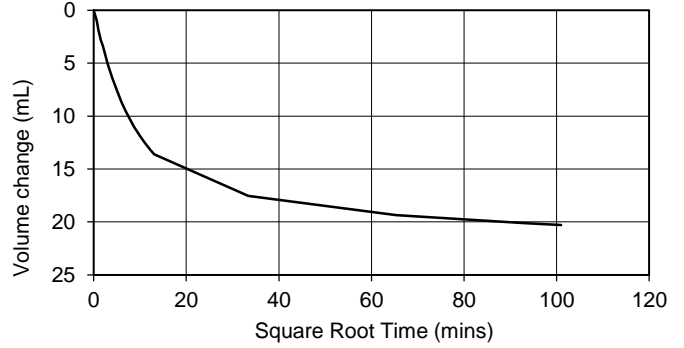
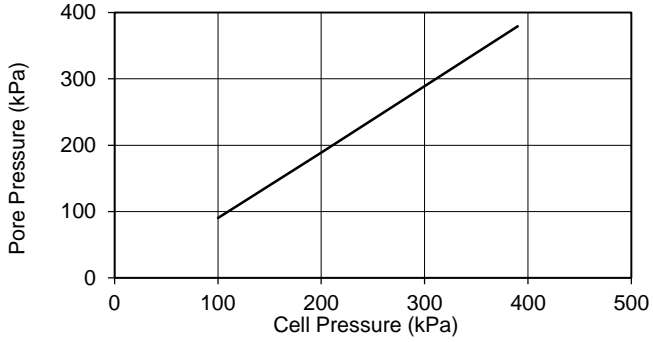
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# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 9.20-9.65

**Specimen 1**



Test Number:

**GEO / 23014**

Test Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**

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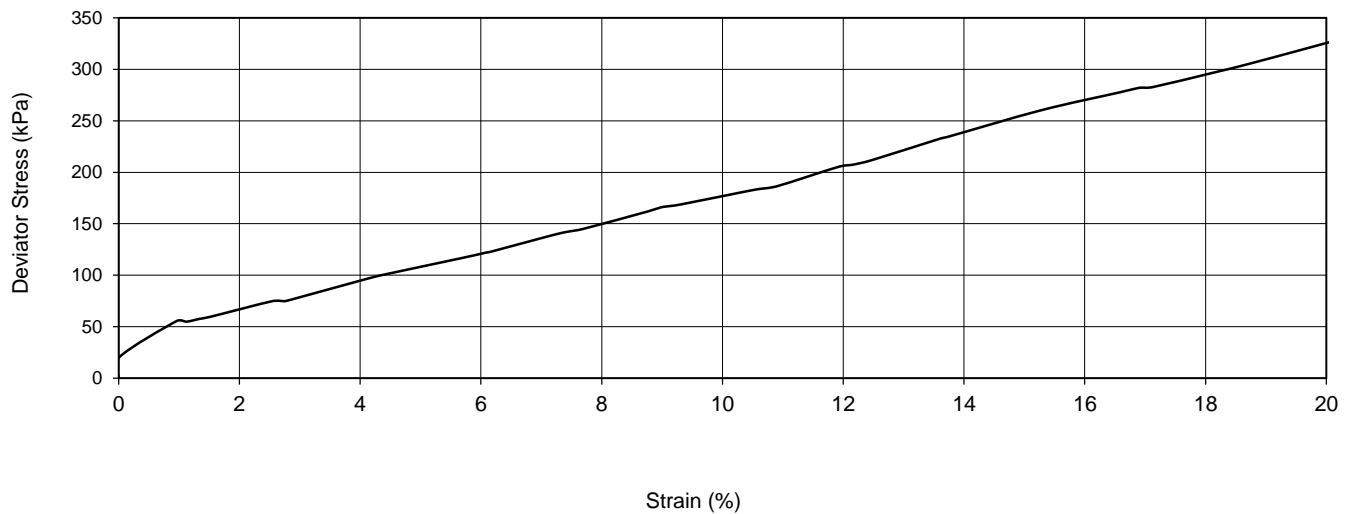
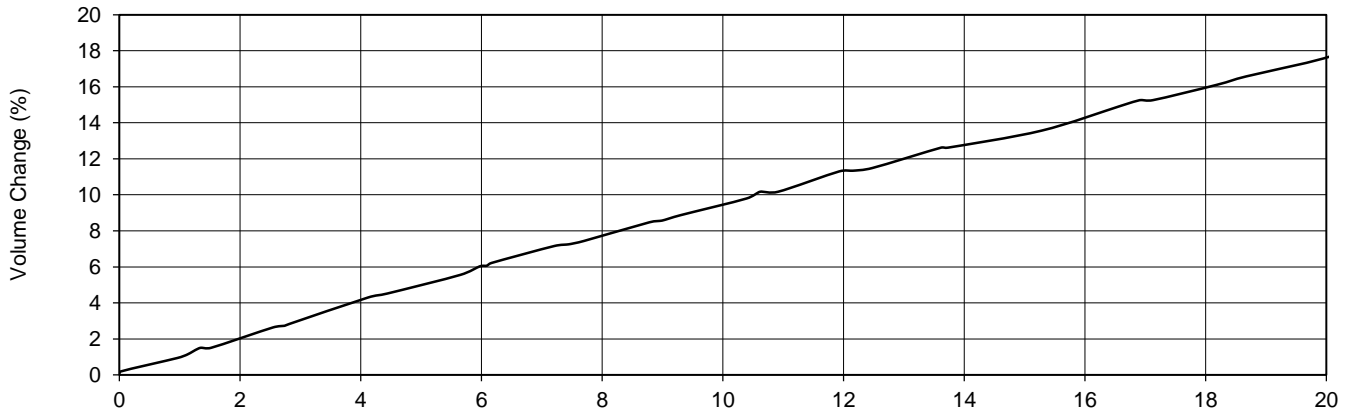
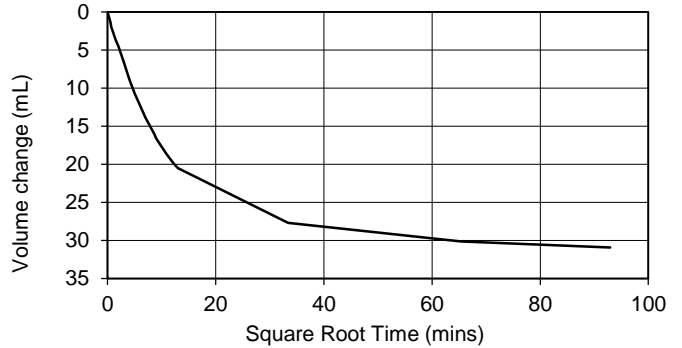
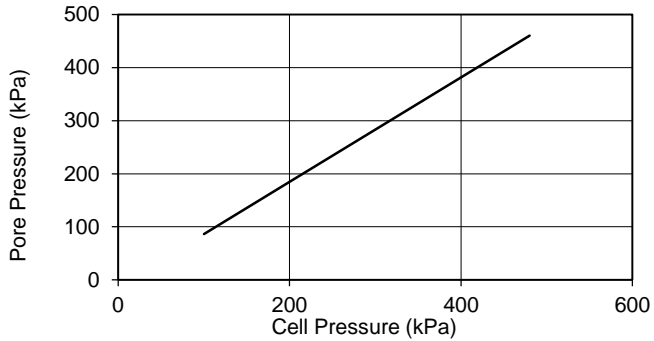


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# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 9.20-9.65

**Specimen 2**



Number:

**GEO / 23014**

Name:

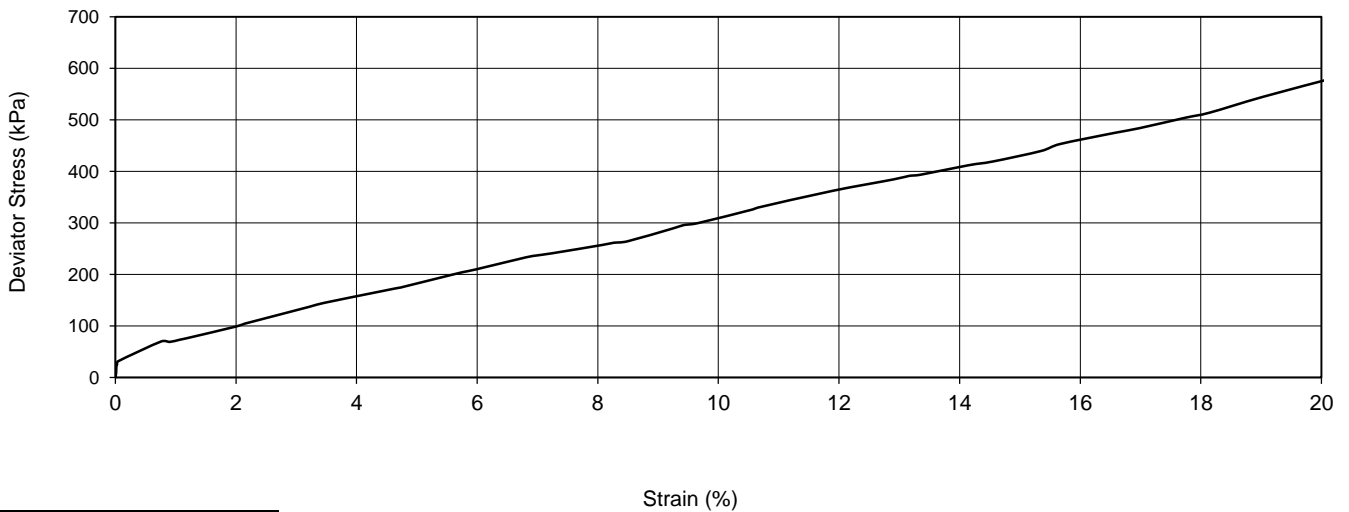
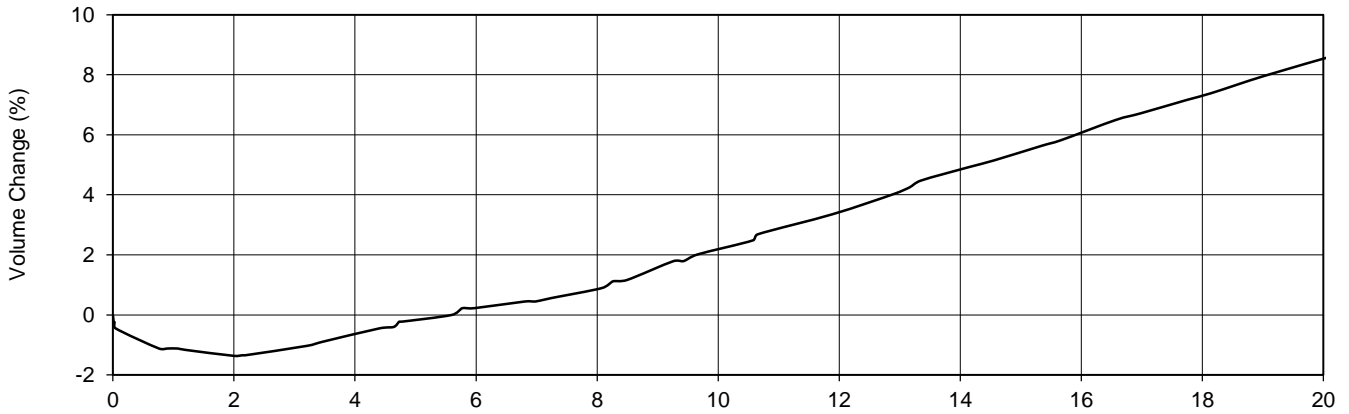
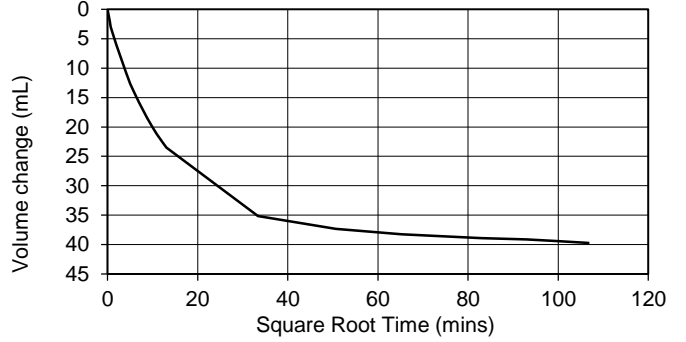
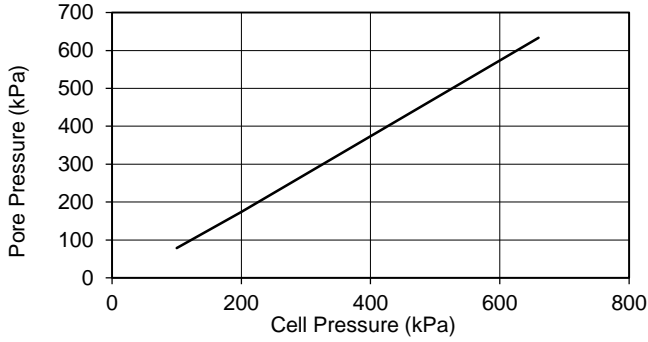
**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**



# Consolidated Drained Triaxial Compression Test with Measurement of Volume Change

Borehole No.: 101  
Depth (m): 9.20-9.65

**Specimen 3**



Project Number:

**GEO / 23014**

Project Name:

**LONDON PARAMOUNT ENTERTAINMENT RESORT  
30766**

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## Consolidated Drained Triaxial Compression test with Measurement of Volume Change ( BS1377 : Part 8 : 1990 )

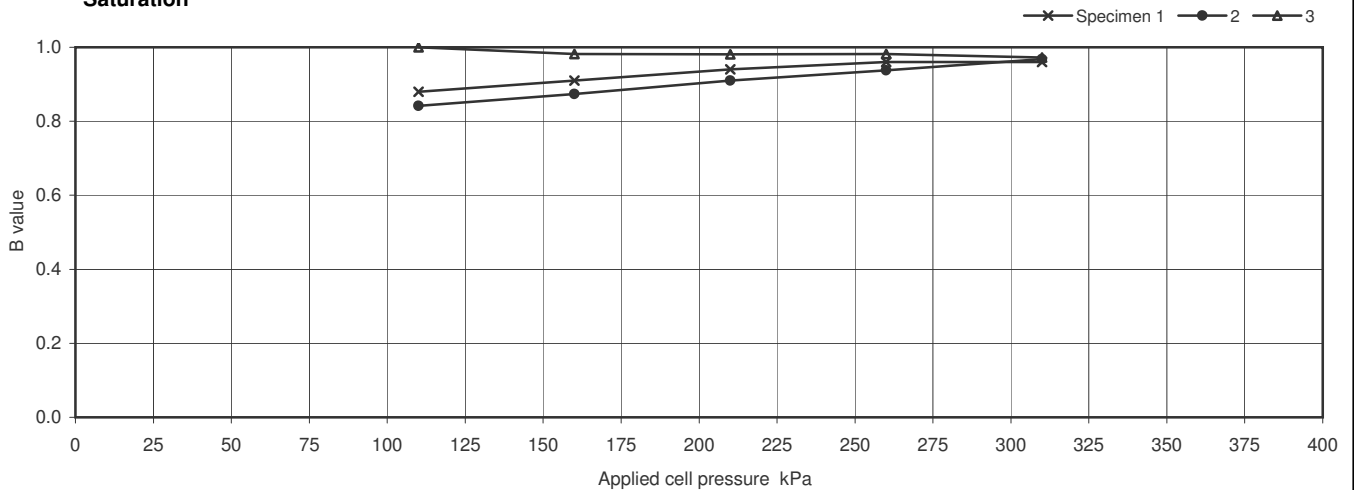
Project No	N5110-15	Sample Details:	Hole No		BH202			
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)		8.2-8.6			
			No	34	Type	UT		
			ID					
			Spec Ref	8.35-8.55m				

Specimen Details		1	2	3	
Initial	Length	mm	74.9	75.9	75.5
	Diameter	mm	37.5	37.0	37.6
	Bulk Density	Mg/m <sup>3</sup>	1.15	1.09	1.15
	Water Content	%	249	214	250
	Dry density	Mg/m <sup>3</sup>	0.33	0.35	0.33
After consolidation	Length	mm	63.6	61.4	59.5
	Diameter	mm	31.4	29.6	28.6
	Bulk Density	Mg/m <sup>3</sup>	1.27	1.25	1.25
	Water Content	%	129	84.0	74.3
	Dry density	Mg/m <sup>3</sup>	0.55	0.68	0.72
After test	Bulk Density	Mg/m <sup>3</sup>	1.23	1.81	1.27
	Water Content	%	163	114	105
	Dry density	Mg/m <sup>3</sup>	0.47	0.85	0.62

Soil Description	Firm black pseudo fibrous PEAT with occasional rootlets.
Specimen Type /Preparation	UNDISTURBED

Saturation Details		Method of Saturation		
		Increments of cell and back pressure		
Cell pressure increments	kPa	50	50	50
Differential Pressure	kPa	10	10	10
Final Cell Pressure	kPa	310	310	310
Final pore water pressure	kPa	300	296.1	298.3
Final B Value		0.96	0.97	0.97

**Saturation**



<b>Consolidation Details</b> <small>see sheet 2 for plots</small>	Drainage Conditions		From radial boundary and one end			
	Specimen No.		1	2	3	
	Cell Pressure applied		380	460	620	kPa
	Back Pressure applied		300	300	300	kPa
	Effective Pressure		80	160	320	kPa
	Pore pressure at start of consolidation		376	448	606	kPa
	Pore pressure at end of consolidation		300	300	304	kPa
	Pore pressure dissipation at end of consolidation		100	100	99	%
Consolidation parameters <small>( see note to BS1377 : pt 8, clause 6.3.4 )</small>	Coefficient of Consolidation	C <sub>vi</sub>	0.44	0.37	0.03	m <sup>2</sup> /year
	Coefficient of Compressibility	M <sub>vi</sub>	2.71	1.95	1.44	m <sup>2</sup> /MN
	Coefficient of Permeability ( calculated )	k <sub>vi</sub>	3.7E-10	2.2E-10	1.5E-11	m/s

**Ref**

SLR8.2  
Rev 85  
Jan 10



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**Figure**

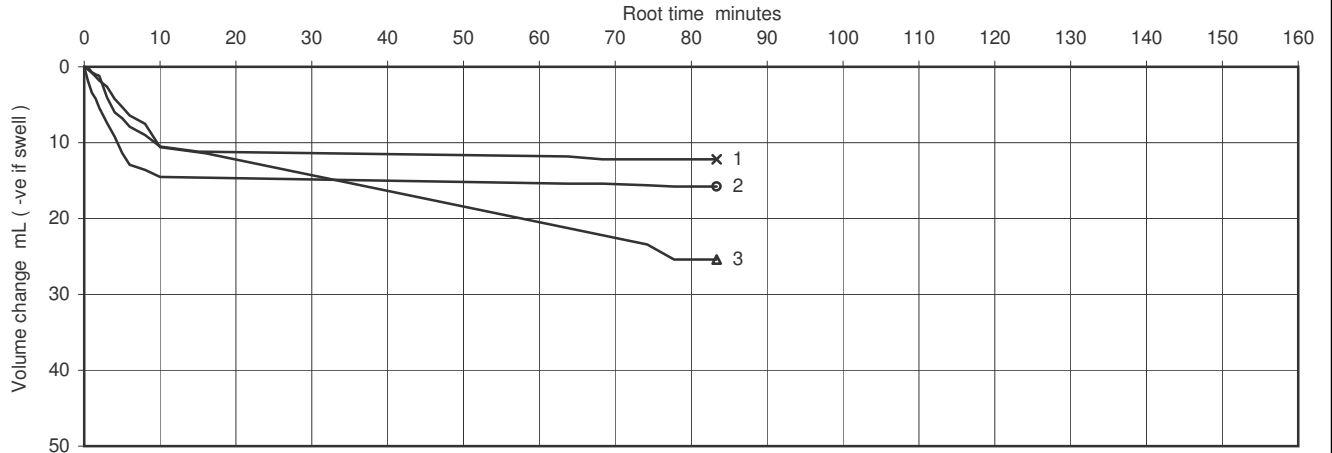
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sheet 1 of 3

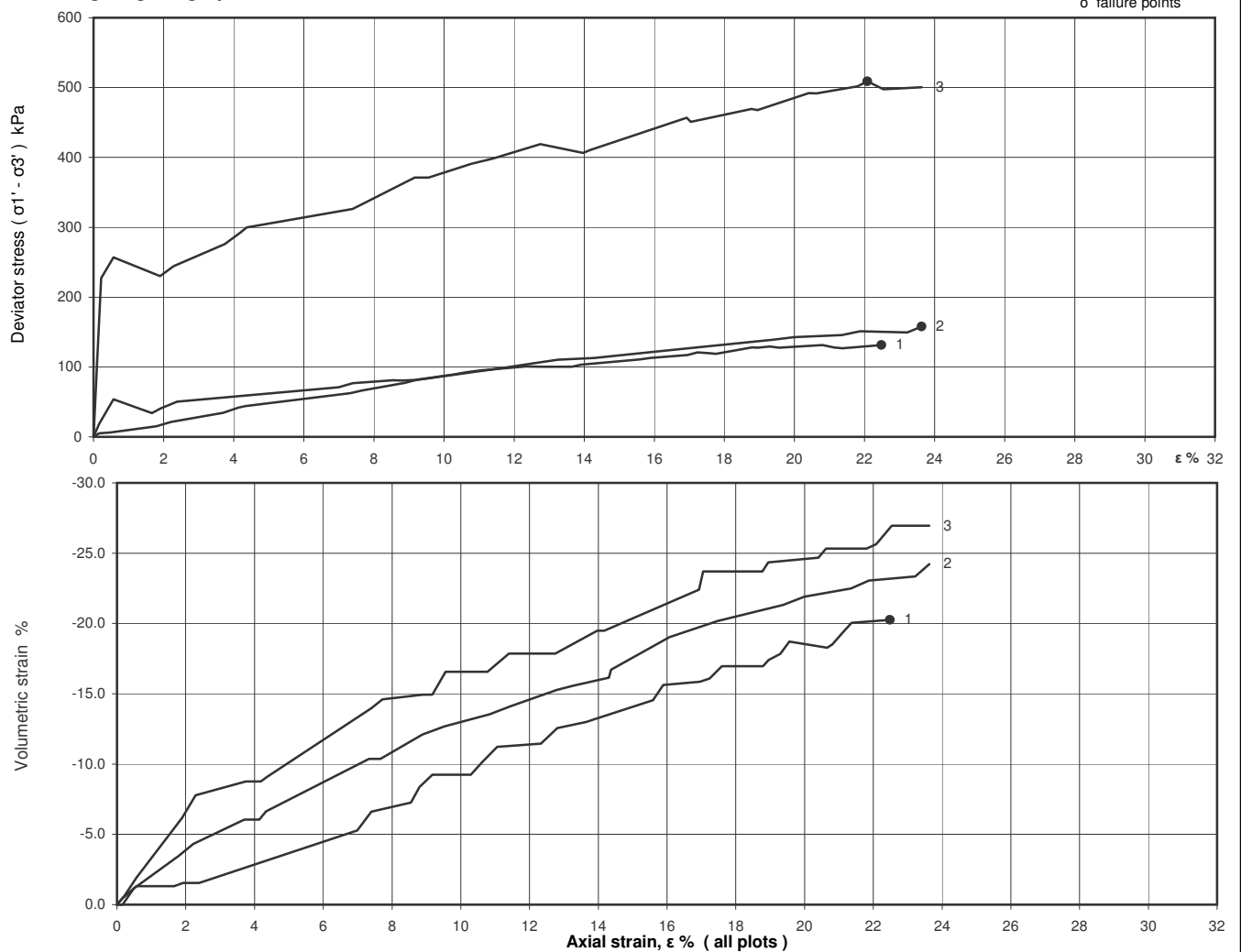
## Consolidated Drained Triaxial Compression test with Measurement of Volume Change ( BS1377 : Part 8 : 1990 )

Project No	N5110-15	Sample Details:	Hole No		BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)		8.2-8.6		
			No	34	Type	UT	
			ID				
			Spec Ref	8.35-8.55m			

### Consolidation



### Shearing stages - graphical data



Ref

SLR8.2  
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Jan 10



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Figure

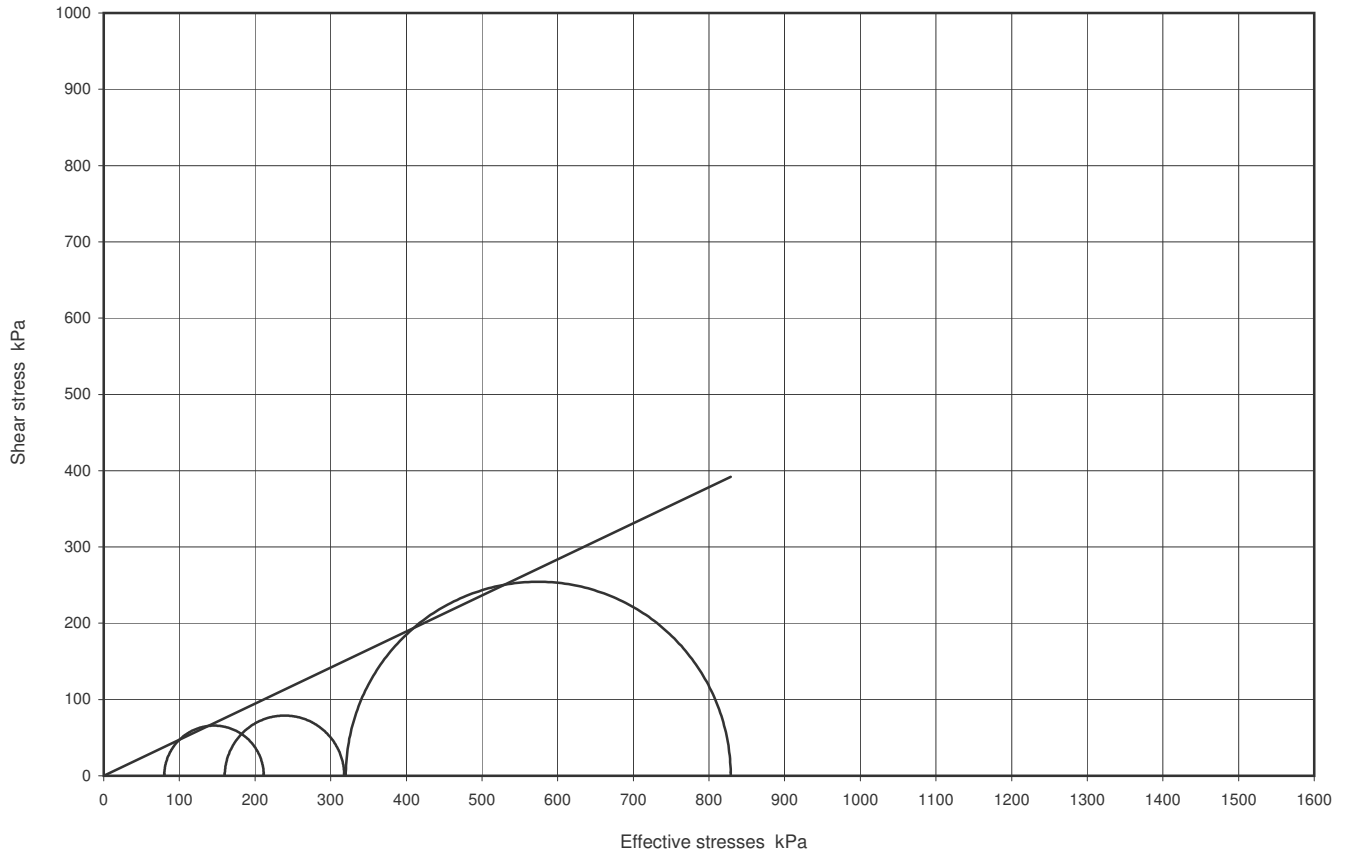
CD

sheet 2 of 3

**Consolidated Drained Triaxial Compression test with Measurement of Volume Change  
( BS1377 : Part 8 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	8.2-8.6		
			No	34	Type	UT
			ID			
		Spec Ref	8.35-8.55m			

**Mohr Circles**



**Compression stages**

Specimen	1	2	3	
Cell pressure	380	460	620	kPa
Initial pwp	300	300	300	kPa
Initial $\sigma_3'$	80	160	320	kPa
Rate of strain	0.07	0.07	0.07	%/hr

**Shear Strength Parameters**

Linear regression

$c'$	kPa	( -16.6 )
$\phi'$	degrees	( 27.5 )

Manual re-assessment

$c'$	kPa	0
$\phi'$	degrees	25.3

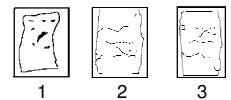
**Failure conditions**

Criterion	Maximum deviator stress			
	1	2	3	
Axial strain	22.49	23.63	22.08	%
$(\sigma_1' - \sigma_3')_f$	131.6	157.9	508.7	kPa
Volumetric strain	-20.26	-24.21	-25.65	%
$\sigma_3'_f$	80	160	320	kPa
$\sigma_1'_f$	212	318	829	kPa
Time to failure	321.2	337.6	315.5	hrs

**Notes :**

Deviator stresses corrected for area change, vertical side drains and 0.285 mm thick rubber membrane(s)

Mode of failure



**Ref**

SLR8.2  
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**Figure**

**CD**

sheet 3 of 3



**Consolidated Drained Triaxial Compression test with Measurement of Volume Change  
( BS1377 : Part 8 : 1990 )**

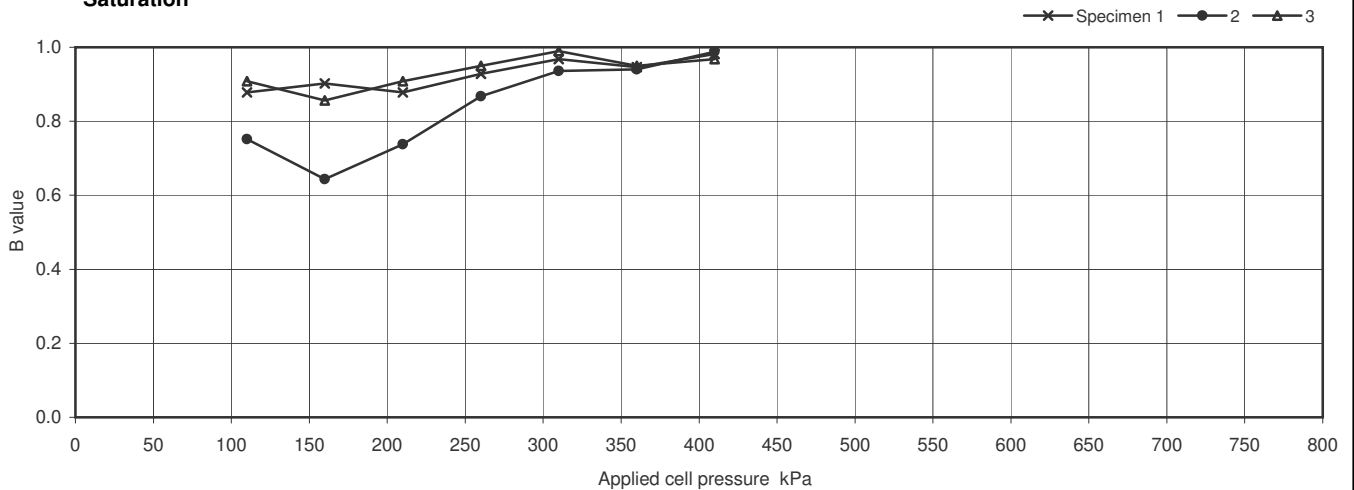
Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	13.00-13.45		
			No	50	Type	UT
			ID			
			Spec Ref	13.20-13.40m		

Specimen Details		1	2	3
Initial	Length mm	75.1	75.0	74.7
	Diameter mm	37.5	36.5	37.7
	Bulk Density Mg/m <sup>3</sup>	1.56	1.60	1.57
	Water Content %	78.6	77.8	76.6
	Dry density Mg/m <sup>3</sup>	0.87	0.90	0.89
After consolidation	Length mm	67.5	66.5	64.4
	Diameter mm	33.5	33.2	32.1
	Bulk Density Mg/m <sup>3</sup>	1.74	1.71	1.85
	Water Content %	43.5	38.9	30.0
	Dry density Mg/m <sup>3</sup>	1.21	1.23	1.42
After test	Bulk Density Mg/m <sup>3</sup>	1.66	1.99	1.80
	Water Content %	53.2	46.6	36.9
	Dry density Mg/m <sup>3</sup>	1.09	1.36	1.32

Soil Description	Soft grey organic CLAY.
Specimen Type /Preparation	UNDISTURBED

Saturation Details		Method of Saturation		
		Increments of cell and back pressure		
Cell pressure increments	kPa	50	50	50
Differential Pressure	kPa	10	10	10
Final Cell Pressure	kPa	410	410	410
Final pore water pressure	kPa	398.4	394.9	390.5
Final B Value		0.98	0.99	0.97

**Saturation**



<b>Consolidation Details</b> see sheet 2 for plots	Drainage Conditions		From radial boundary and one end			
	Specimen No.		1	2	3	
	Cell Pressure applied		480	610	870	kPa
	Back Pressure applied		350	350	350	kPa
	Effective Pressure		130	260	520	kPa
	Pore pressure at start of consolidation		465	599	859	kPa
	Pore pressure at end of consolidation		350	350	355	kPa
	Pore pressure dissipation at end of consolidation		100	100	99	%
Consolidation parameters ( see note to BS1377 : pt 8, clause 6.3.4 )	Coefficient of Consolidation	C <sub>vi</sub>	0.14	0.13	0.09	m <sup>2</sup> /year
	Coefficient of Compressibility	M <sub>vi</sub>	1.45	0.79	0.69	m <sup>2</sup> /MN
	Coefficient of Permeability ( calculated )	k <sub>vi</sub>	6.2E-11	3.2E-11	2.0E-11	m/s

Ref  
SLR8.2  
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Figure

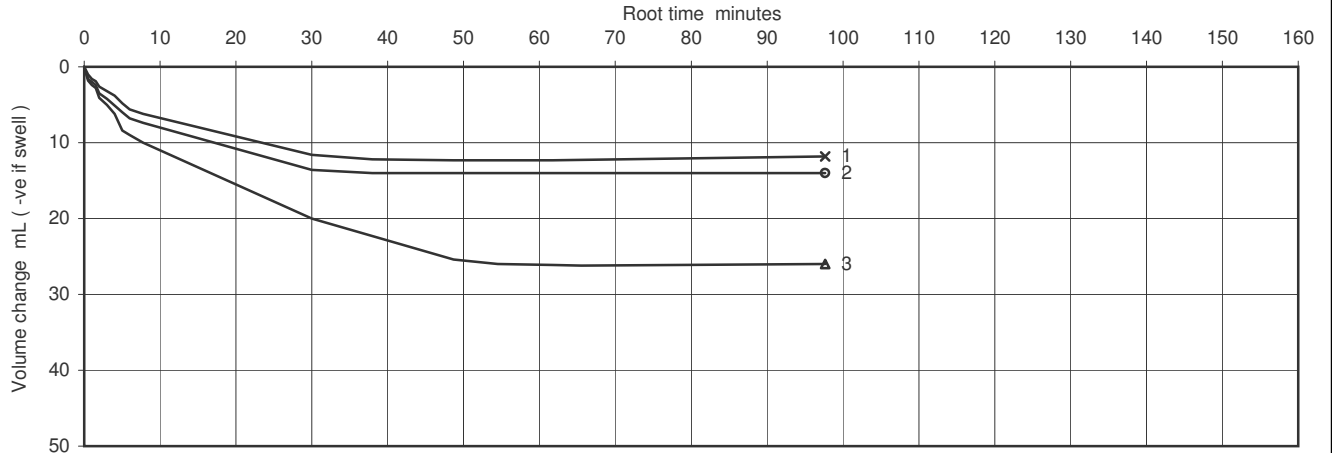
**CD**

sheet 1 of 3

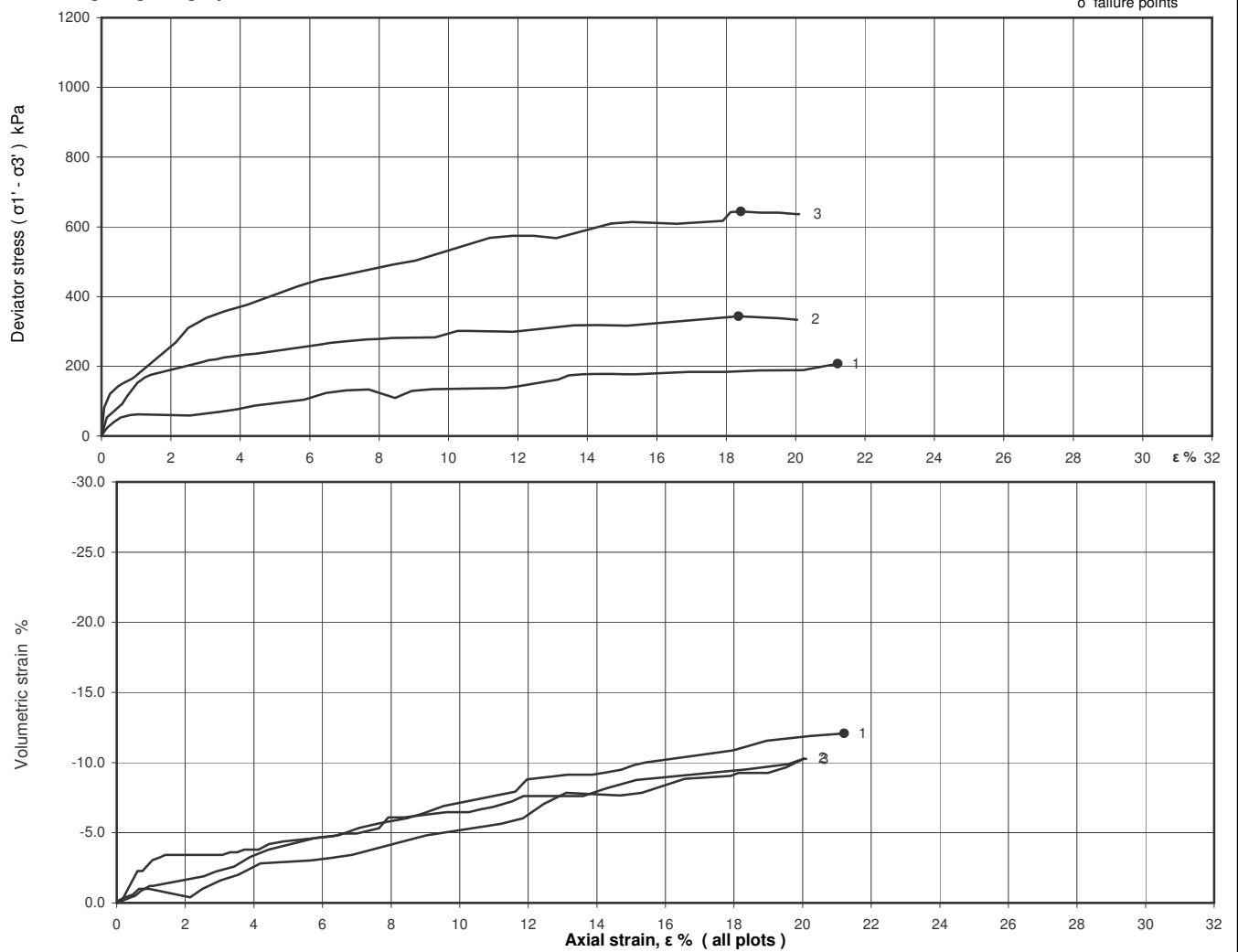
## Consolidated Drained Triaxial Compression test with Measurement of Volume Change ( BS1377 : Part 8 : 1990 )

Project No	N5110-15	Sample Details:	Hole No		BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)		13.00-13.45		
			No	50	Type	UT	
			ID				
			Spec Ref	13.20-13.40m			

### Consolidation



### Shearing stages - graphical data



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Figure

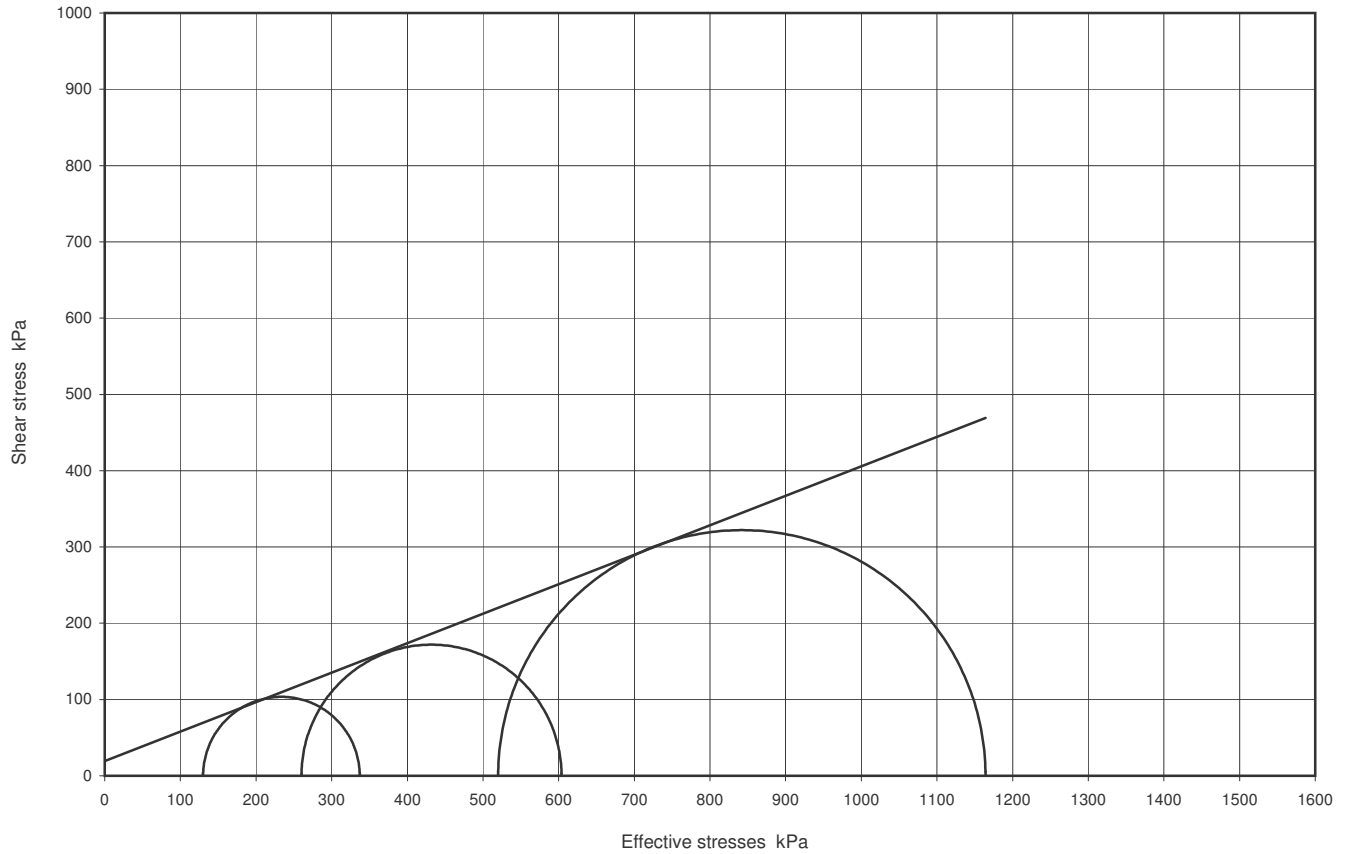
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sheet 2 of 3

**Consolidated Drained Triaxial Compression test with Measurement of Volume Change  
( BS1377 : Part 8 : 1990 )**

Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	13.00-13.45		
			No	50	Type	UT
			ID			
			Spec Ref	13.20-13.40m		

**Mohr Circles**



**Compression stages**

Specimen	1	2	3	
Cell pressure	480	610	870	kPa
Initial pwp	350	350	350	kPa
Initial $\sigma_3'$	130	260	520	kPa
Rate of strain	0.22	0.22	0.22	%/hr

**Shear Strength Parameters**

Linear regression

$c'$	kPa	19.5
$\phi'$	degrees	21.1

Manual re-assessment

$c'$	kPa	-
$\phi'$	degrees	-

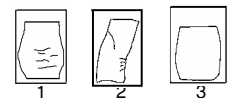
**Failure conditions**

Criterion	Maximum deviator stress			
	1	2	3	
Axial strain	21.21	18.36	18.43	%
$(\sigma_1' - \sigma_3')_f$	207.0	343.8	644.2	kPa
Volumetric strain	-12.07	-9.52	-9.26	%
$\sigma_3'_f$	130	260	520	kPa
$\sigma_1'_f$	337	604	1164	kPa
Time to failure	96.4	83.4	83.8	hrs

**Notes :**

Deviator stresses corrected for area change, vertical side drains and 0.25 mm thick rubber membrane(s)

Mode of failure



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**Figure**

**CD**

sheet 3 of 3

## Consolidated Undrained Triaxial Compression test with Measurement of Pore Water Pressure ( BS1377 : Part 8 : 1990 )

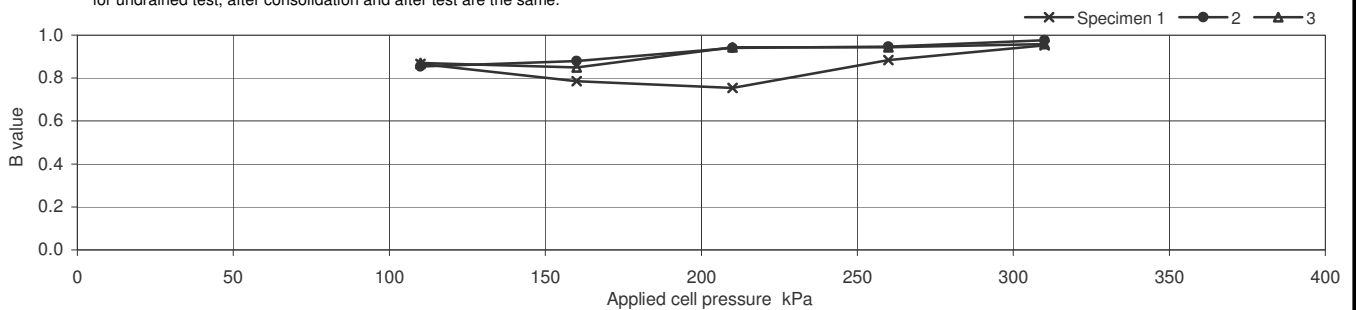
Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	16.00-16.45		
			No	59	Type	UT
			ID			
			Spec Ref	16.20-16.40m		

Specimen Details		1	2	3
Initial	Length mm	76.53	75.42	75.36
	Diameter mm	37.90	37.83	37.06
	Bulk Density Mg/m <sup>3</sup>	1.50	1.57	1.60
	Water Content %	72	67	65
	Dry density Mg/m <sup>3</sup>	0.87	0.94	0.97
After consolidation	Length mm	72.60	70.59	69.07
	Diameter mm	35.89	35.44	33.82
	Bulk Density* Mg/m <sup>3</sup>	1.63	1.70	1.78
	Water Content* %	59	48	39
	Dry density* Mg/m <sup>3</sup>	1.03	1.14	1.28

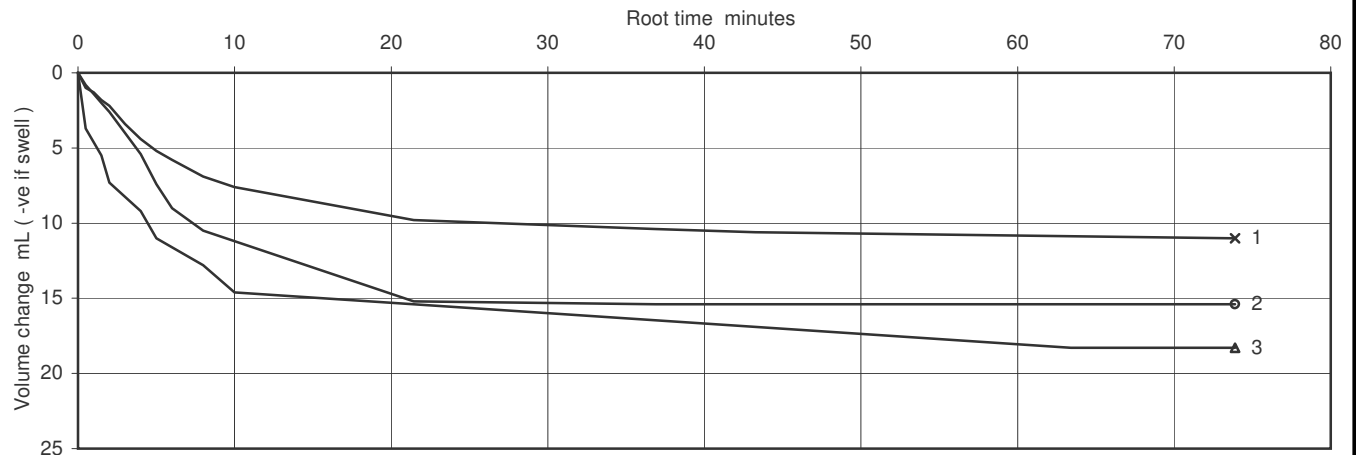
Soil Description	Soft grey CLAY.
Specimen Type /Preparation	UNDISTURBED

Saturation Details		Method of Saturation		
		Increments of cell and back pressure		
Cell pressure increments	kPa	50	50	50
Differential Pressure	kPa	10	10	10
Final Cell Pressure	kPa	310	310	310
Final pore water pressure	kPa	299.4	298.4	300.3
Final B Value		0.95	0.98	0.96

\* for undrained test, after consolidation and after test are the same.



Consolidation Details	Drainage Conditions		From radial boundary and one end			
	Specimen No.		1	2	3	
	Cell Pressure applied		460	620	940	kPa
	Back Pressure applied		300	300	300	kPa
	Effective Pressure		160	320	640	kPa
	Pore pressure at start of consolidation		440	600	883	kPa
	Pore pressure at end of consolidation		300	300	302	kPa
	Pore pressure dissipation at end of consolidation		100	100	100	%
Consolidation parameters ( see note to BS1377 : pt 8, clause 6.3.4 )	Coefficient of Consolidation	C <sub>vi</sub>	0.20	0.23	0.16	m <sup>2</sup> /year
	Coefficient of Compressibility	M <sub>vi</sub>	0.94	0.61	0.40	m <sup>2</sup> /MN
	Coefficient of Permeability ( calculated )	k <sub>vi</sub>	5.8E-11	4.4E-11	2.0E-11	m/s



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**Figure**

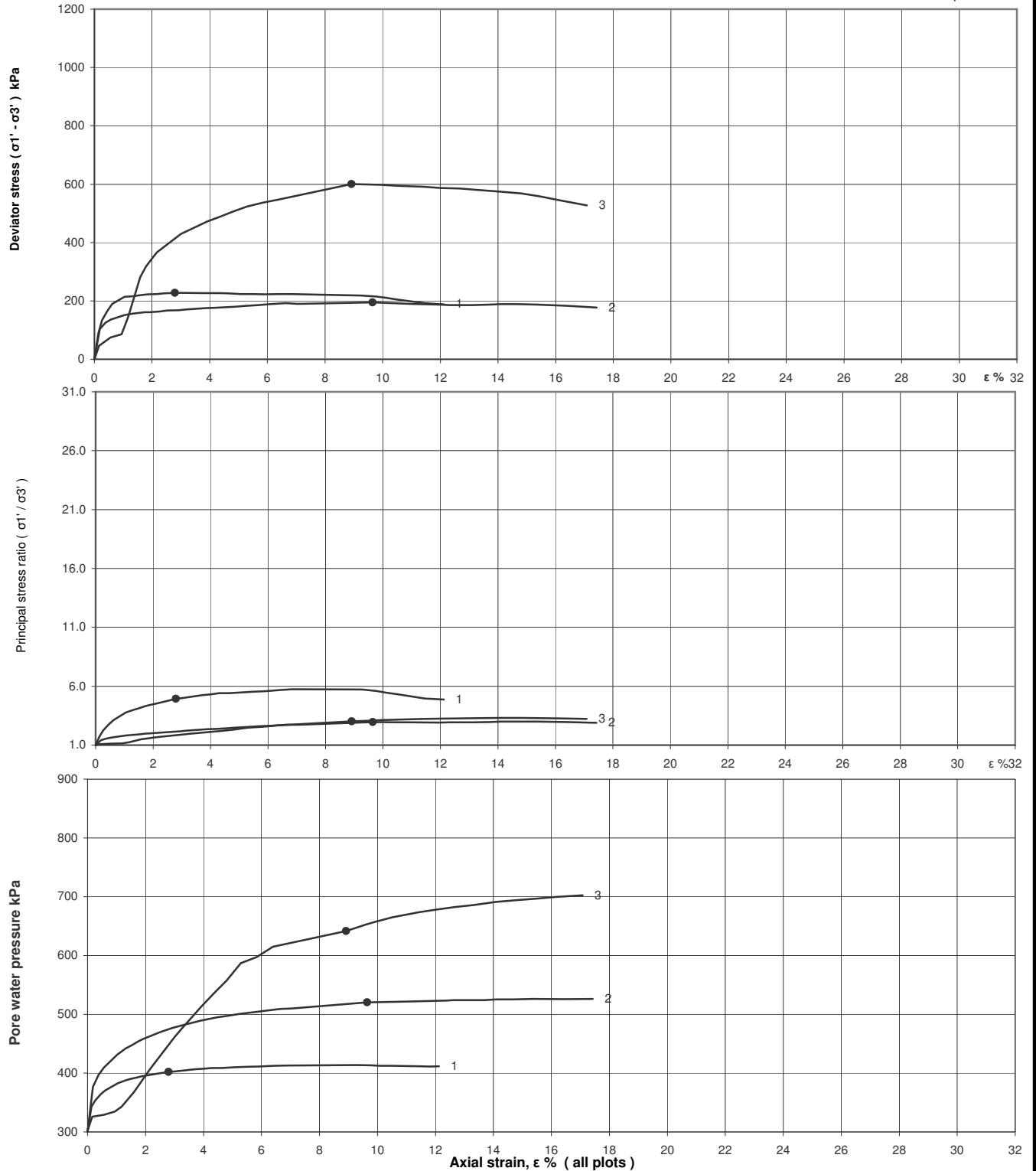
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sheet 1 of 3

## Consolidated Undrained Triaxial Compression test with Measurement of Pore Water Pressure ( BS1377 : Part 8 : 1990 )

Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	16.00-16.45		
			No	59	Type	UT
			ID			
		Spec Ref	16.20-16.40m			

### Shearing stages - graphical data



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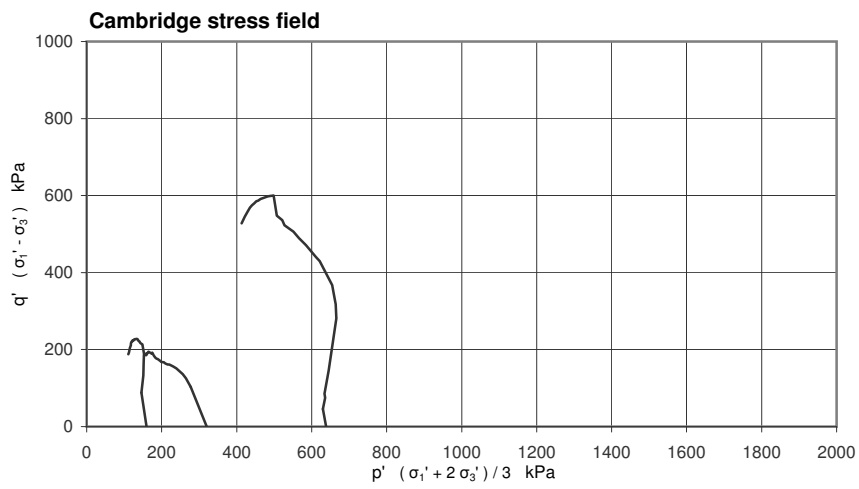
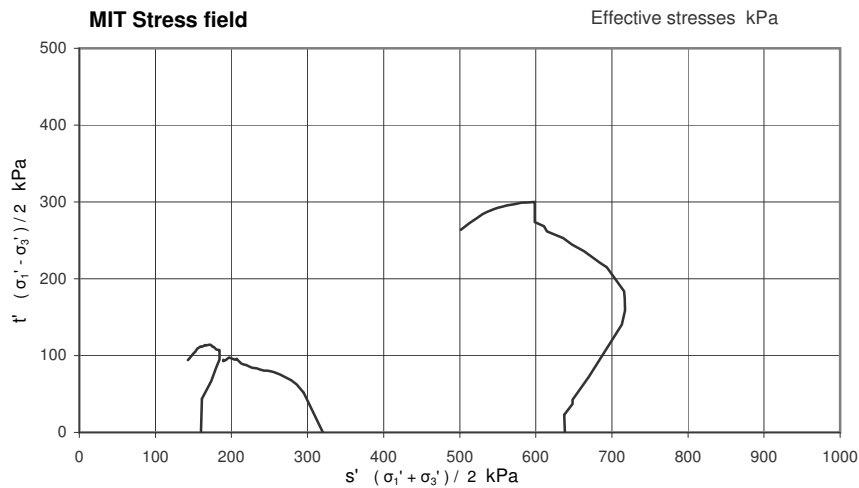
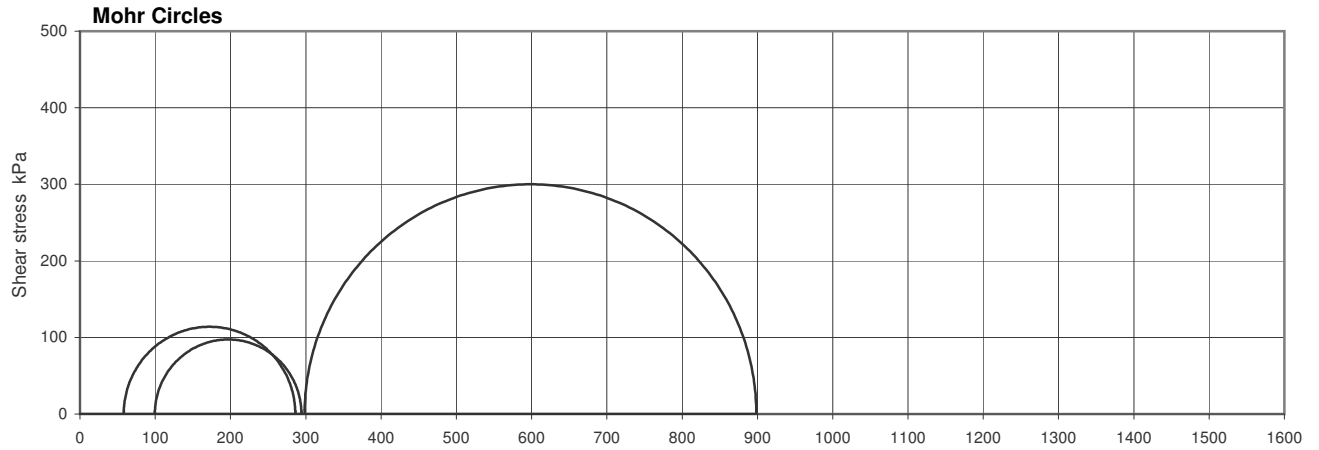
Figure

**CU**

sheet 2 of 3

## Consolidated Undrained Triaxial Compression test with Measurement of Pore Water Pressure ( BS1377 : Part 8 : 1990 )

Project No	N5110-15	Sample Details:	Hole No	BH202		
Project Name	(30766) LONDON PARAMOUNT ENTERTAINMENT RESORT		Depth (m BGL)	16.00-16.45		
			No	59	Type	UT
			ID			
			Spec Ref	16.20-16.40m		



### Compression stages

Specimen	1	2	3	
Cell pressure	460	620	940	kPa
Initial pwp	300	300	302	kPa
Initial $\sigma_3'$	160	320	638	kPa
Rate of strain	0.99	0.99	0.99	%/hr

### Failure conditions

Criterion	Maximum deviator stress			
	1	2	3	
Axial strain	2.80	9.65	8.92	%
$(\sigma_1' / \sigma_3')_f$	4.923	2.957	3.011	
$(\sigma_1' - \sigma_3')_f$	227.9	194.7	600.1	kPa
$u_f$	402	521	642	kPa
$\sigma_3'_f$	58	100	298	kPa
$\sigma_1'_f$	286	294	899	kPa
$A_f$	0.45	1.13	0.57	
Time to failure	2.8	9.8	9.0	hrs

### Shear Strength Parameters

		Linear regression
$c'$	kPa	not assessed
$\phi'$	degrees	not assessed
		Manual re-assessment
$c'$	kPa	-
$\phi'$	degrees	-

### Mode of failure



Notes : Deviator stresses corrected for area change, vertical side drains and 0.25 mm thick rubber membrane(s)

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Figure  
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# UNIAXIAL COMPRESSIVE STRENGTH OF ROCK



I.S.R.M. Suggested Methods : 2007 Edition

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole no.	sample		specimen depth (m)	diameter D (mm)	height H (mm)	H/D	moisture content (%)	bulk density (Mg/m³)	loading rate (kN/min)	time to failure (min:sec)	UCS (MPa)	description and coding test remarks
	no./type	depth (m)										
BH101	108Cs	35.95	35.95	99.0	216.4	2.19	28.2	1.93	10	01:53	2.00	White CHALK Ax
BH101	117Cs	41.50	41.50	100.5	222.8	2.22	24.5	1.90	5	02:05	2.30	White CHALK Ax
BH101	132Cs	58.44	58.44	99.5	237.3	2.39	18.9	1.95	2	08:09	2.70	White CHALK Ax
BH203	67Cs	26.75	26.80	115.0	215.0	1.87	24.9	2.02	10	4:12	3.60	White CHALK Ax
BH203	98Cs	38.10	38.10	115.0	201.0	1.75	25.8	1.96	10	2:46	2.60	White CHALK Ax
BH502	71Cs	19.20	19.30	87.0	208.0	2.39	25.9	1.96	5	3:22	2.80	White CHALK Ax

**general remarks:**

Sample obtained from vertically drilled core (unless specified).

Test machine - ELE 1500.

**CODING**

moisture condition :  
 N - natural moisture content  
 F - fully saturated  
 S - soaked  
 P - air/partially dried

sample storage :  
 U - sample not wrapped  
 F - sample wrapped in cling film/foil  
 W - sample waxed  
 G - sample contained in sealed Geoline

failure mode:  
 Ax - axial cleavage  
 Ca - cataclasis  
 Sh - shear  
 Ex - explosive

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## UNIAXIAL COMPRESSIVE STRENGTH OF ROCK - SUMMARY OF RESULTS

Project No	Project Name												
N5110-15	LONDON PARAMOUNT ENTERTAINMENT RESORT												
Hole No.	Sample				Rock Type	Type	Bulk Density <sup>2</sup> Mg/m <sup>3</sup>	Water Content <sup>1</sup> %	Uniaxial Compression <sup>3</sup>				Remarks
	No.	Depth (m)		type					Load Rate kN/min	Time to failure secs	Mode of failure	UCS MPa	
		from	to										
BH202	99	29.75	30.00	XS	CHALK	100mm <sup>3</sup>	2.00	24.2	10	226	AC	3.11	Outside ISRM Specification

**Notes :** Test Specification : International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007

1 ISRM p87 test 1, water content at 105 ± 3 °C, specimen as received at the laboratory

2 ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density

3 ISRM p153 part 1, determination of Uniaxial Compressive Strength ( UCS ) of Rock Materials

Mode of failure :  
S - Single shear      MS - multiple shear  
AC - Axial cleavage      F - Fragmented

above notes apply unless annotated otherwise in the remarks



# POINT LOAD STRENGTH TEST RESULTS



I.S.R.M. SUGGESTED METHODS 2007 EDITION

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SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample depth (m)	test type	test orientation	moisture condition	width W (mm)	length L (mm)	platen sep. D (mm)	failure load P (kN)	equiv. dia. De (mm)	Is (MPa)	size factor F	Is(50) (MPa)	rock type
BH101	30.20	I	U	P	80	35	60	0.79	78.18	0.13	1.22	0.16	White CHALK
BH101	33.05	I	U	P	90	35	80	0.37	95.75	0.04	1.34	0.05	White CHALK
BH101	34.20	D	Y	P		40	100	0.20	100.00	0.02	1.37	0.03	White CHALK
BH101	34.20	A	X	P	100		65	0.35	90.97	0.04	1.31	0.06	White CHALK
BH101	35.70	I	Y	P	90	40	75	0.53	92.71	0.06	1.32	0.08	White CHALK
BH101	37.40	D	Y	P		100	90	0.78	90.00	0.10	1.30	0.12	White CHALK
BH101	37.40	A	X	P	90		120	0.91	117.26	0.07	1.47	0.10	White CHALK
BH101	38.85	D	Y	P		100	100	1.80	100.00	0.18	1.37	0.25	White CHALK
BH101	38.85	A	X	P	100		90	1.69	107.05	0.15	1.41	0.21	White CHALK
BH101	42.10	I	U	P	70	40	50	0.81	66.76	0.18	1.14	0.21	White CHALK
BH101	44.80	D	Y	P		40	100	0.51	100.00	0.05	1.37	0.07	White CHALK
BH101	44.80	A	X	P	100		50	0.69	79.79	0.11	1.23	0.13	White CHALK
BH101	60.00	D	Y	P		70	100	0.49	100.00	0.05	1.37	0.07	White CHALK
BH101	60.00	A	X	P	100		65	0.59	90.97	0.07	1.31	0.09	White CHALK
BH203	14.40	I	U	N	50	70	50	0.28	56.42	0.09	1.06	0.09	White CHALK
BH203	16.70	I	U	N	55	90	50	0.36	59.17	0.10	1.08	0.11	White CHALK
BH203	24.00	I	U	N	70	105	70	1.32	78.99	0.21	1.23	0.26	White CHALK
BH203	25.50	D	Y	N		145	120	3.17	120.00	0.22	1.48	0.33	White CHALK

remarks: Tests carried out in accordance with I.S.R.M.(2007): Suggested Methods for Determining Point Load Strength. Int. J. Rock Mech. Min. Sci. and Geotech. Abstr. Vol.22 No. 2.

test type: D - diametral A - axial I - Irregular lump	test orientation relative to discontinuities: X - perpendicular Y - parallel Z - oblique	moisture condition: N - natural moisture content P - partially air dried S - soaked
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# POINT LOAD STRENGTH TEST RESULTS



I.S.R.M. SUGGESTED METHODS 2007 EDITION

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SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample depth (m)	test type	test orientation	moisture condition	width W (mm)	length L (mm)	platen sep. D (mm)	failure load P (kN)	equiv. dia. De (mm)	Is (MPa)	size factor F	Is(50) (MPa)	rock type
BH203	25.50	A	X	N	120		70	1.90	103.42	0.18	1.39	0.25	White CHALK
BH203	25.80	I	U	N	40	90	40	0.73	45.14	0.36	0.95	0.34	White CHALK
BH203	26.70	I	U	N	80	110	80	1.57	90.27	0.19	1.30	0.25	White CHALK
BH203	27.90	D	Y	N		100	120	1.52	120.00	0.11	1.48	0.16	White CHALK
BH203	27.90	A	X	N	120		90	2.20	117.26	0.16	1.47	0.23	White CHALK
BH203	29.50	D	Y	N		120	115	1.31	115.00	0.10	1.45	0.14	White CHALK
BH203	29.50	A	X	N	115		100	1.48	121.01	0.10	1.49	0.15	White CHALK
BH203	30.95	D	Y	N		170	110	1.97	110.00	0.16	1.43	0.23	White CHALK
BH203	30.95	A	X	N	110		115	0.93	126.91	0.06	1.52	0.09	White CHALK
BH203	32.30	A	X	N	50		50	0.99	56.42	0.31	1.06	0.33	White CHALK
BH203	32.50	D	Y	N		150	120	1.92	120.00	0.13	1.48	0.20	White CHALK
BH203	32.50	A	X	N	120		90	1.11	117.26	0.08	1.47	0.12	White CHALK
BH203	35.20	I	U	N	80	115	50	0.39	71.36	0.08	1.17	0.09	White CHALK
BH203	36.00	I	U	N	70	110	60	0.70	73.13	0.13	1.19	0.15	White CHALK
BH203	36.75	D	Y	N		120	110	0.73	110.00	0.06	1.43	0.09	White CHALK
BH203	36.75	A	X	N	110		75	1.38	102.49	0.13	1.38	0.18	White CHALK
BH203	37.80	I	U	N	45	110	45	0.98	50.78	0.38	1.01	0.38	White CHALK
BH204	17.60	I	U	N	90	110	50	0.48	75.69	0.08	1.21	0.10	White CHALK

remarks: Tests carried out in accordance with I.S.R.M.(2007): Suggested Methods for Determining Point Load Strength.  
Int. J. Rock Mech. Min. Sci. and Geotech. Abstr. Vol.22 No. 2.

test type: D - diametral A - axial I - Irregular lump	test orientation relative to discontinuities: X - perpendicular Y - parallel Z - oblique	moisture condition: N - natural moisture content P - partially air dried S - soaked
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# POINT LOAD STRENGTH TEST RESULTS



I.S.R.M. SUGGESTED METHODS 2007 EDITION

CLIENT LONDON RESORT COMPANY HOLDINGS LTD

SITE LONDON PARAMOUNT ENTERTAINMENT RESORT

borehole /trial pit no.	sample depth (m)	test type	test orientation	moisture condition	width W (mm)	length L (mm)	platen sep. D (mm)	failure load P (kN)	equiv. dia. De (mm)	Is (MPa)	size factor F	Is(50) (MPa)	rock type
BH204	17.70	I	U	N	100	130	70	0.54	94.41	0.06	1.33	0.08	White CHALK
BH204	19.90	I	U	N	90	110	65	0.52	86.30	0.07	1.28	0.09	White CHALK
BH501	18.60	I	U	P	95	110	60	0.53	85.19	0.07	1.27	0.09	White CHALK
BH501	19.85	I	U	P	95	100	60	0.66	85.19	0.09	1.27	0.11	White CHALK
BH502	18.20	D	Y	P		135	90	0.37	90.00	0.05	1.30	0.06	White CHALK
BH502	18.20	A	X	P	90		110	0.77	112.27	0.06	1.44	0.09	White CHALK
BH706	28.70	D	Y	N		125	85	0.41	85.00	0.06	1.27	0.07	Off white CHALK
BH706	28.70	A	X	N	85		70	0.21	87.04	0.03	1.28	0.03	Off white CHALK

remarks: Tests carried out in accordance with I.S.R.M.(2007): Suggested Methods for Determining Point Load Strength. Int. J. Rock Mech. Min. Sci. and Geotech. Abstr. Vol.22 No. 2.

test type: D - diametral A - axial I - Irregular lump	test orientation relative to discontinuities: X - perpendicular U - unknown Y - parallel Z - oblique	moisture condition: N - natural moisture content P - partially air dried S - soaked
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CONTRACT  
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**SR**

# Point Load Index Test

## ISRM:1985

Project No	Project Name
N5110-15	LONDON PARAMOUNT ENTERTAINMENT RESORT

All specimens tested at **as received water content** unless shown otherwise

**Test Type**

D - Diametral, A - Axial, I - Irregular Lump, B - Block

**Direction** ( U = unknown or random )

L - parallel to planes of weakness

P - perpendicular to planes of weakness

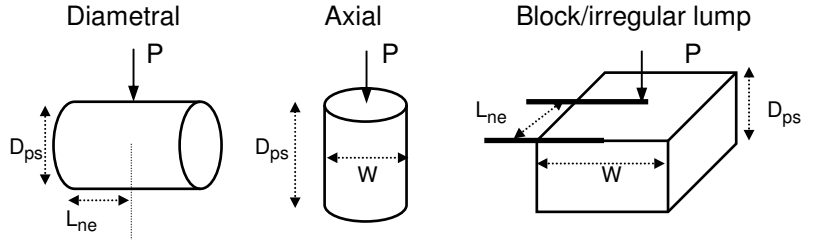
**Dimensions**

$D_{ps}$  - Distance between platens ( platen separation )

$D_{ps}'$  - at failure ( see ISRM note 6 )

$L_{ne}$  - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions				LOAD P  kN	$D_e$ equivalent diameter, mm	Point Load Index MPa $F = (D_e/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P, or U)		$L_{ne}$ mm	W mm	$D_{ps}$ mm	$D_{ps}'$ mm			$I_s$	$I_{s(50)}$	
BH202	26.95	90	XS			CHALK	I	U	Y	40.0	63.2	49.0	44.0	0.50	59.50	0.14	0.15	



CLIENT	LONDON RESORT COMPANY HOLDINGS LTD	BH/TP No.	BH704
SITE	LONDON PARAMOUNT ENTERTAINMENT RESORT	SAMPLE No./TYPE	15UT
DESCRIPTION	Soft brown slightly sandy slightly gravelly CLAY with rare rootlets. Gravel is fine to coarse flint and white chalk.	DEPTH FROM (m)	3.20
		DEPTH TO (m)	3.65

DATE	21-July-2015	LOGGED BY	CA
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**PHOTOGRAPHS  
BEFORE**



**AFTER**



REMARKS	CONTRACT	CHECKED
	<b>30766</b>	<b>CA</b>

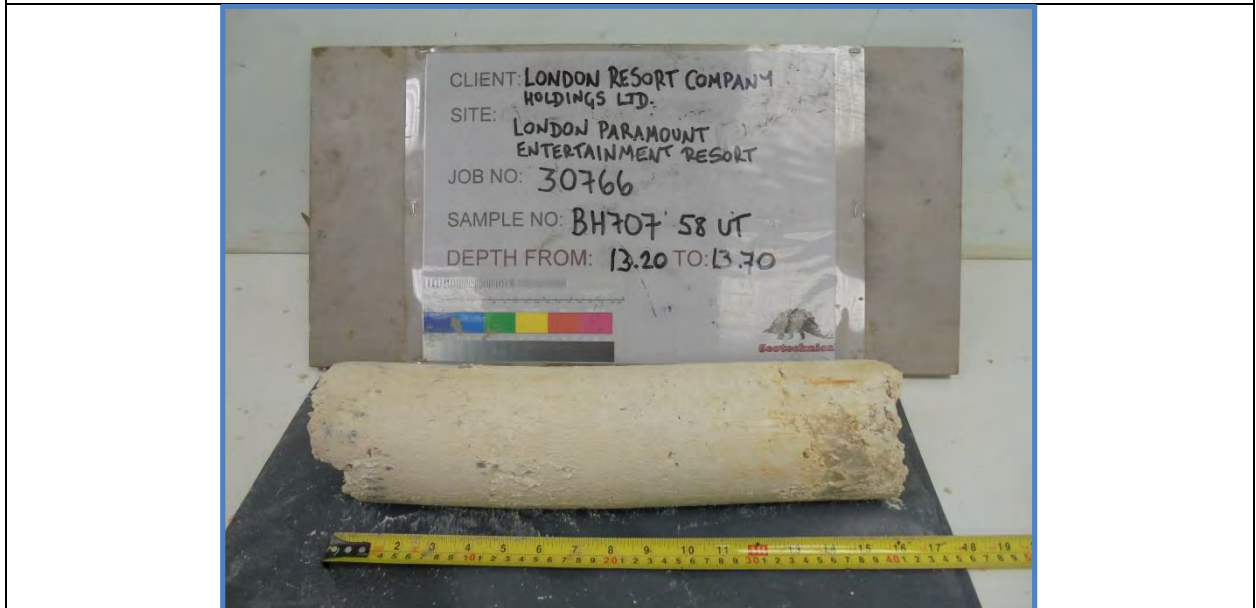


CLIENT	LONDON RESORT COMPANY HOLDINGS LTD.	BH/TP No.	BH707
SITE	LONDON PARAMOUNT ENTERTAINMENT RESORT	SAMPLE No./TYPE	58UT
DESCRIPTION	White, orange stained, structureless CHALK containing weak, fine to medium, subrounded gravel.	DEPTH FROM (m)	13.20m
		DEPTH TO (m)	13.70m

DATE	28.06.2015	LOGGED BY	EL
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**PHOTOGRAPHS**

**BEFORE**



**AFTER**



REMARKS

CONTRACT	CHECKED
<b>30766</b>	<b>CA</b>



CLIENT:	LONDON RESORT COMPANY HOLDINGS LTD.	BH/TP No.	BH707
SITE:	LONDON PARAMOUNT ENTERTAINMENT RESORT	SAMPLE No./TYPE	66UT
DESCRIPTION:	White, orange stained structureless CHALK containing extremely weak clasts of fine to coarse gravel.	DEPTH FROM (m)	16.20m
		DEPTH TO (m)	16.70m

DATE	28.06.2015	LOGGED BY	EL
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**PHOTOGRAPHS**

**BEFORE**



**AFTER**



**REMARKS**

CONTRACT	CHECKED
<b>30766</b>	<b>CA</b>



CLIENT	LONDON RESORT COMPANY HOLDINGS LTD.	BH/TP No.	BH708
SITE	LONDON PARAMOUNT ENTERTAINMENT RESORT	SAMPLE No./TYPE	48UT
DESCRIPTION	Soft brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium flint.	DEPTH FROM (m)	9.20
		DEPTH TO (m)	9.65

DATE	21-July-2015	LOGGED BY	CA
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**PHOTOGRAPHS  
BEFORE**



**AFTER**



REMARKS	CONTRACT	CHECKED
	<b>30766</b>	<b>CA</b>





CLIENT	LONDON PARAMOUNT COMPANY HOLDINGS LTD.	BH/TP No.	WS202
SITE	LONDON PARAMOUNT ENTERTAINMENT RESORT	SAMPLE No./TYPE	U
DESCRIPTION	Firm dark greenish grey CLAY with rare rootlets. Locally mottled black, orange and pale yellow. Poorly cemented fine CKD at top.	DEPTH FROM (m)	11.00
		DEPTH TO (m)	11.45

DATE	18-Aug-2015	LOGGED BY	CA
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**PHOTOGRAPHS**  
**BEFORE**



**AFTER**



REMARKS	CONTRACT	CHECKED
	<b>30766</b>	<b>CA</b>

# CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name																		
N5110-15	LONDON PARAMOUNT ENTERTAINMENT RESORT																		
Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO <sub>4</sub>			SD1 options		CO <sub>2</sub> %	Chloride, Cl		<2 mm %	Remarks	
	No.	Depth (m)		type					Preparation/test *	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %		Mg NO <sub>3</sub> NH <sub>4</sub> mg/L	water sol. %			acid sol. %
		from	to																
BH101	17	3.00	3.20	B	Grey sandy GRAVEL.	1.7	c										30		
BH202	32	8.00	8.20	B	Grey slightly sandy slightly gravelly CLAY.	0.2	c										100		

BS 1377 : definitive method unless stated : Org Organic matter content ( s-sulphides, c-chlorides identified ) LOI Mass loss on ignition at 440°C CO <sub>2</sub> Carbonate content ( rapid titration ) Cl Chloride content	* Sulphate tests preparation / test methods : 1. BS 1377:Part 3:1990:clause 5.3 2. BS 1377:Part 3:1990:clause 5.4 3. BS 1377:Part 3:1990:clause 5.5 < 2mm material passing 2mm sieve	BRE Special Digest SD1, dependent options : TS Total Sulphur to BR279 / EN ISO15178 Mg Soluble Magnesium to BR279, colorimetric NO3 Soluble Nitrate to BR279, colorimetric NH <sub>4</sub> qualitative	
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QA Ref  SLR 3 Rev 96 Aug 11		Printed:02/09/2015 10:23	Table  <b>CHEM 1</b>
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# Final Report

**Report Number:** 15-16597 Issue-1

**Initial Date of Issue:** 23-Jul-2015

**Client:** Geotechnical Engineering Ltd

**Client Address:** Centurion House  
Olympus Park  
Quedgeley  
Gloucester  
Gloucestershire  
GL2 4NF

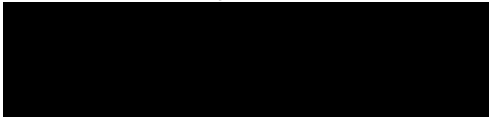
**Contact(s):** Claire Andrew

**Project:** 30766 London Paramount Entertainment Resort

<b>Quotation No.:</b>		<b>Date Received:</b>	21-Jul-2015
<b>Order No.:</b>		<b>Date Instructed:</b>	21-Jul-2015
<b>No. of Samples:</b>	3	<b>Target Due Date:</b>	23-Jul-2015
<b>Turnaround: (Wkdays)</b>	5	<b>Results Due Date:</b>	27-Jul-2015

**Date Approved:** 23-Jul-2015

**Approved By:**



**Details:** Keith Jones, Technical Manager

---

**Project: 30766 London Paramount Entertainment Resort**

Client: Geotechnical Engineering Ltd	<b>Chemtest Job No.:</b>				15-16597	15-16597	15-16597
Quotation No.:	<b>Chemtest Sample ID.:</b>				167488	167489	167490
Order No.:	Client Sample Ref.:				BH101	BH101	BH101
	<b>Client Sample ID.:</b>				27B	39B	59B
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				6.0	9.0	14.0
	Bottom Depth(m):						
	Date Sampled:				20-Jul-15	20-Jul-15	20-Jul-15
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>			
Moisture	N	2030	%	0.02	63	42	19
Organic Matter	U	2625	%	0.4	19	5.2	0.86

## **Report Information**

### **Key**

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- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:  
[customerservices@chemtest.co.uk](mailto:customerservices@chemtest.co.uk)



**Claire Andrew**

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## **Analytical Report Number : 15-75255**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 BH202

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 3 soil samples

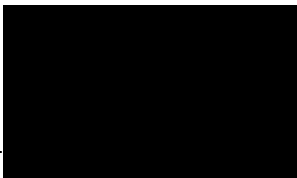
**Samples received on:** 13/07/2015

**Samples instructed on:** 13/07/2015

**Analysis completed by:** 17/07/2015

**Report issued on:** 17/07/2015

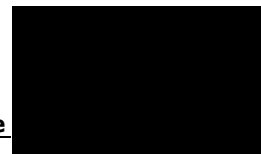
**Signed:**



Colin Everett  
Senior Analyst

**For & on behalf of i2 Analytical Ltd.**

**Signe**



Emma Winter  
Assistant Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-75255

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				464705	464706	464707		
Sample Reference				BH202 44B	BH202 53B	BH202 64D		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				10.60	14.00	17.50		
Date Sampled				09/07/2015	10/07/2015	11/07/2015		
Time Taken				1400	1410	1430		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	59	45	13		
Total mass of sample received	kg	0.001	NONE	0.20	0.22	0.15		
<b>General Inorganics</b>								
Organic Matter	%	0.1	MCERTS	9.8	7.8	2.5		



**Analytical Report Number : 15-75255**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
464705	BH202 44B	None Supplied	10.60	Grey clay.
464706	BH202 53B	None Supplied	14.00	Grey clay.
464707	BH202 64D	None Supplied	17.50	Grey clay.





4041



MCERTS

**Analytical Report Number : 15-75255****Project / Site name: London Paramount Entertainment Resort****Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

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



**Claire Andrew**

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## **Analytical Report Number : 15-76182**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 BH203

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

**Samples received on:** 29/07/2015

**Samples instructed on:** 29/07/2015

**Analysis completed by:** 03/08/2015

**Report issued on:** 03/08/2015

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sign**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76182

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470308				
<b>Sample Reference</b>				BH203 17B				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				5.00				
<b>Date Sampled</b>				28/07/2015				
<b>Time Taken</b>				0930				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	35				
Total mass of sample received	kg	0.001	NONE	2.0				

**General Inorganics**

Organic Matter	%	0.1	MCERTS	3.9				
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**Analytical Report Number : 15-76182**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
470308	BH203 17B	None Supplied	5.00	Light grey clay.



**Analytical Report Number : 15-76182**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



**Claire Andrew**

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## **Analytical Report Number : 15-76372**

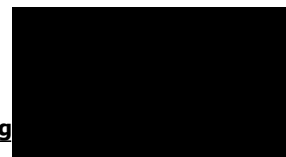
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	31/07/2015
<b>Your job number:</b>	30766 BH204	<b>Samples instructed on:</b>	31/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	06/08/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	06/08/2015
<b>Samples Analysed:</b>	2 soil samples		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sig**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76372

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				471495	471496			
Sample Reference				BH204 16B	BH204 27B			
Sample Number				None Supplied	None Supplied			
Depth (m)				4.00	7.00			
Date Sampled				30/07/2015	30/07/2015			
Time Taken				0900	0900			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	19	11			
Total mass of sample received	kg	0.001	NONE	0.23	0.23			

**General Inorganics**

	pH Units	N/A	MCERTS	7.3	-			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	1.4	-			
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	1400	-			
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.68	-			
Organic Matter	%	0.1	MCERTS	4.3	0.4			



**Analytical Report Number : 15-76372**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
471495	BH204 16B	None Supplied	4.00	Black clay.
471496	BH204 27B	None Supplied	7.00	Light grey clay.





**Analytical Report Number : 15-76372**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**

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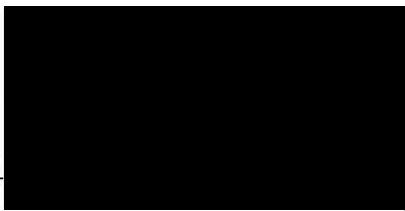
**f:** 01923 237404

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## **Analytical Report Number : 15-75265**

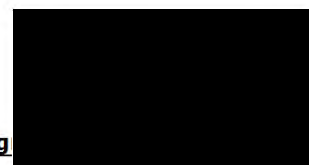
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	13/07/2015
<b>Your job number:</b>	30766 BH501	<b>Samples instructed on:</b>	13/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	17/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	17/07/2015
<b>Samples Analysed:</b>	1 soil sample		

**Signed:**



Neil Donovan  
Environmental Forensics Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sig**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-75265

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				464746				
<b>Sample Reference</b>				BH501 40X				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.40				
<b>Date Sampled</b>				10/07/2015				
<b>Time Taken</b>				0615				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	6.8				
Total mass of sample received	kg	0.001	NONE	0.29				

**General Inorganics**

pH	pH Units	N/A	NONE	9.7				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	NONE	0.56				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	NONE	560				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	NONE	0.28				

**Analytical Report Number : 15-75265**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
464746	BH501 40X	None Supplied	7.40	White chalk with rubble.**

\*\*Non MCERTS matrix

**Analytical Report Number : 15-75265**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**

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## **Analytical Report Number : 15-76032**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 BH502

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

**Samples received on:** 27/07/2015

**Samples instructed on:** 27/07/2015

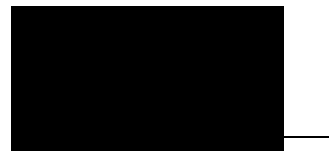
**Analysis completed by:** 30/07/2015

**Report issued on:** 30/07/2015

**Signed:**

Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76032

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				469369				
<b>Sample Reference</b>				BH502 27X				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				5.60				
<b>Date Sampled</b>				23/07/2015				
<b>Time Taken</b>				1630				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	12				
Total mass of sample received	kg	0.001	NONE	0.23				

**General Inorganics**

pH	pH Units	N/A	NONE	8.7				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	NONE	0.15				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	NONE	150				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	NONE	0.074				

**Analytical Report Number : 15-76032**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
469369	BH502.27X	None Supplied	5.60	White chalk. **

\*\* Non MCerts Matrix



**Analytical Report Number : 15-76032**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74049**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 BH703

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

**Samples received on:** 23/06/2015

**Samples instructed on:** 23/06/2015

**Analysis completed by:** 29/06/2015

**Report issued on:** 29/06/2015

**Signature**

Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74049

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457514				
<b>Sample Reference</b>				BH703 5B				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				22/06/2015				
<b>Time Taken</b>				0930				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	15				
Total mass of sample received	kg	0.001	NONE	0.57				

**General Inorganics**

pH	pH Units	N/A	MCERTS	8.3				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.20				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	200				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.10				



**Analytical Report Number : 15-74049**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
457514	BH703 5B	None Supplied	1.00	Light brown sandy clay with gravel and chalk.

**Analytical Report Number : 15-74049**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74914**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 BH704

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 2 soil samples

**Samples received on:** 08/07/2015

**Samples instructed on:** 08/07/2015

**Analysis completed by:** 14/07/2015

**Report issued on:** 14/07/2015

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74914

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462872	462873			
<b>Sample Reference</b>				BH704 23D	BH704 16D			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				4.60	3.65			
<b>Date Sampled</b>				07/07/2015	07/07/2015			
<b>Time Taken</b>				0930	0930			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	15	15			
Total mass of sample received	kg	0.001	NONE	0.21	0.25			

#### General Inorganics

pH	pH Units	N/A	MCERTS	7.9	-			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.068	-			
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	68	-			
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.034	-			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	42	-			
Organic Matter	%	0.1	MCERTS	-	< 0.1			
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	-			

#### Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	11	-			
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**Analytical Report Number : 15-74914**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
462872	BH704 23D	None Supplied	4.60	Grey clay.
462873	BH704 16D	None Supplied	3.65	Light brown clay.



**Analytical Report Number : 15-74914**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74051**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 BH707

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

**Samples received on:** 23/06/2015

**Samples instructed on:** 25/06/2015

**Analysis completed by:** 01/07/2015

**Report issued on:** 01/07/2015

**Signature**

Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signature**

Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74051

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457530				
<b>Sample Reference</b>				BH707 8X				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.30-1.50				
<b>Date Sampled</b>				22/06/2015				
<b>Time Taken</b>				1045				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	12				
Total mass of sample received	kg	0.001	NONE	1.3				

**General Inorganics**

pH	pH Units	N/A	MCERTS	8.0				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	1.1				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	1100				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.54				



**Analytical Report Number : 15-74051**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
457530	BH707 8X	None Supplied	1.30-1.50	Brown clay and loam with chalk.

**Analytical Report Number : 15-74051**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-75864**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766 TP702

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

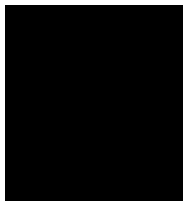
**Samples received on:** 23/07/2015

**Samples instructed on:** 23/07/2015

**Analysis completed by:** 29/07/2015

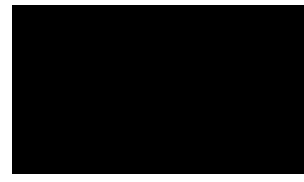
**Report issued on:** 29/07/2015

**Signed:**



Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-75864

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				468519				
<b>Sample Reference</b>				TP702 7B				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.50				
<b>Date Sampled</b>				22/07/2015				
<b>Time Taken</b>				0830				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	11				
Total mass of sample received	kg	0.001	NONE	0.47				

**General Inorganics**

pH	pH Units	N/A	MCERTS	8.0				
Water Soluble Sulphate (Soil Equivalent)	q/l	0.0025	MCERTS	0.17				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	170				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	q/l	0.00125	MCERTS	0.086				



**Analytical Report Number : 15-75864**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
468519	TP702 7B	None Supplied	1.50	Light brown clay and loam.





**Analytical Report Number : 15-75864**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**

**APPENDIX C**  
**CHEMICAL ANALYSES**



**Emma Leivers**

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## **Analytical Report Number : 15-77208**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	14/08/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	14/08/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	24/08/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	24/08/2015
<b>Samples Analysed:</b>	4 water samples		

**Signed**

Neil Donovan  
Environmental Forensics Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-77208

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	476304	476305	476306	476307
Sample Reference	BH706	DUPLICATE B	BH707	BH705
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	6.46	None Supplied	11.03	2.77
Date Sampled	14/08/2015	14/08/2015	14/08/2015	14/08/2015
Time Taken	0900	0900	0925	1030
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

**General Inorganics**

Parameter	Units	Limit of detection	Accreditation Status	476304	476305	476306	476307
pH	pH Units	N/A	ISO 17025	7.8	7.7	7.5	7.4
Electrical Conductivity	µS/cm	10	NONE	1200	1200	1300	1100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	141000	113000	322000	137000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	140	140	190	140
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	62	110	240	110
Nitrate as N	mg/l	0.01	ISO 17025	22.9	22.6	9.04	26.0
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	101	100	40.1	115
Nitrite as N	µg/l	1	ISO 17025	16	21	230	32
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	53	69	750	110
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	7.2	6.4	27	15
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	4.2	4.7	73	73
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	23	23	9.3	26

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
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**Speciated PAHs**

Parameter	Units	Limit of detection	Accreditation Status	476304	476305	476306	476307
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2

**Heavy Metals / Metalloids**

Parameter	Units	Limit of detection	Accreditation Status	476304	476305	476306	476307
Aluminium (dissolved)	mg/l	0.001	ISO 17025	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.4	1.2	1.2	1.2
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.23	0.23	0.57	0.31
Barium (dissolved)	µg/l	0.06	ISO 17025	63	82	53	67
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	42	42	47	36
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02	0.02	0.05	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.3	0.4	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	0.6	0.9
Iron (dissolved)	mg/l	0.004	ISO 17025	0.38	0.039	0.076	0.042
Lead (dissolved)	µg/l	0.2	ISO 17025	23	20	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	20	25	560	170
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.21	0.17	0.16	0.12
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	0.35	0.38	9.4	0.82
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.7	2.8	26	4.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.9	2.6	4.6	3.0
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	0.4	< 0.2	0.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	1.9	3.0	1.7	< 0.5

Calcium (dissolved)	mg/l	0.012	ISO 17025	220	170	240	230
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	11	12	7.1
Potassium (dissolved)	mg/l	0.025	ISO 17025	4.0	4.1	2.9	3.4
Phosphorus (total)	µg/l	20	ISO 17025	790	760	3800	4300



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Depth (m)				6.46	None Supplied	11.03	2.77	
Date Sampled				14/08/2015	14/08/2015	14/08/2015	14/08/2015	
Time Taken				0900	0900	0925	1030	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
<b>Petroleum Hydrocarbons</b>								
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	



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Sample Reference	BH706			DUPLICATE B			BH707			BH705		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	6.46			None Supplied			11.03			2.77		
Date Sampled	14/08/2015			14/08/2015			14/08/2015			14/08/2015		
Time Taken	0900			0900			0925			1030		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
<b>VOCs</b>												
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	



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Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
<b>SVOCS</b>					
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-77208**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE





**Analytical Report Number : 15-77208**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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## **Analytical Report Number : 15-77128**

Replaces Analytical Report Number : 15-77128, issue no. 1

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	13/08/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	13/08/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	24/08/2015
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	24/08/2015
<b>Samples Analysed:</b>	7 water samples		

**Sig**

Dee Theis  
Operations Director  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	475816	475817	475818	475819	475820
<b>Sample Reference</b>	BH502	Duplicate A	BH708	BH204	BH203
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
<b>Depth (m)</b>	12.09	12.09	16.12	3.08	2.82
<b>Date Sampled</b>	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
<b>Time Taken</b>	1130	1130	1215	0945	1030
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**General Inorganics**

pH	pH Units	N/A	ISO 17025	7.2	7.3	7.4	7.7	7.7
Electrical Conductivity	µS/cm	10	NONE	4000	4000	1500	1600	3000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	500000	483000	227000	95200	1060000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	920	880	120	200	250
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	< 15	1400	1800
Nitrate as N	mg/l	0.01	ISO 17025	29.9	28.4	19.2	0.32	0.32
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	132	126	85.1	1.40	1.40
Nitrite as N	µg/l	1	ISO 17025	14	10	4.0	3.0	13
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	46	33	13	9.9	43
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	14	20	5.6	58	53
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	5.3	6.6	3.3	16	5.6
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	30	28	19	0.3	0.3

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	475816	475817	475818	475819	475820
<b>Sample Reference</b>	BH502	Duplicate A	BH708	BH204	BH203
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
<b>Depth (m)</b>	12.09	12.09	16.12	3.08	2.82
<b>Date Sampled</b>	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
<b>Time Taken</b>	1130	1130	1215	0945	1030
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0026	0.0032	0.0046	0.0120	0.0518
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.3	1.1	0.8	1.3	1.8
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.70	0.74	0.48	2.57	2.87
Barium (dissolved)	µg/l	0.06	ISO 17025	66	65	48	50	160
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	480	470	36	290	480
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	< 0.02	0.03	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	22	22	0.9	0.5	0.7
Copper (dissolved)	µg/l	0.5	ISO 17025	4.9	4.3	2.7	4.2	4.3
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.064	0.011	0.097	0.012
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	0.2	0.4
Manganese (dissolved)	µg/l	0.05	ISO 17025	12	11	10	880	1100
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.38	0.31	0.06	0.28	0.28
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	4.3	4.4	0.38	12	7.2
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.7	4.7	2.2	5.3	8.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	18	17	2.8	3.4	10
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.0	2.1	0.4	0.7	0.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	18	12	1.6	6.6	2.9

Calcium (dissolved)	mg/l	0.012	ISO 17025	350	370	210	86	380
Magnesium (dissolved)	mg/l	0.005	ISO 17025	20	19	18	37	77
Potassium (dissolved)	mg/l	0.025	ISO 17025	74	72	5.2	21	50
Phosphorus (total)	µg/l	20	ISO 17025	190	750	600	100	70

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	475816	475817	475818	475819	475820
Sample Reference	BH502	Duplicate A	BH708	BH204	BH203
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	12.09	12.09	16.12	3.08	2.82
Date Sampled	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
Time Taken	1130	1130	1215	0945	1030
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	475816	475817	475818	475819	475820
Sample Reference	BH502	Duplicate A	BH708	BH204	BH203
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	12.09	12.09	16.12	3.08	2.82
Date Sampled	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
Time Taken	1130	1130	1215	0945	1030

**SVOCs**

Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	475816	475817	475818	475819	475820
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				475821	475822			
<b>Sample Reference</b>				BH501	BH703			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				11.74	4.73			
<b>Date Sampled</b>				13/08/2015	13/08/2015			
<b>Time Taken</b>				1120	1230			
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**General Inorganics**

pH	pH Units	N/A	ISO 17025	7.5	7.7			
Electrical Conductivity	µS/cm	10	NONE	1100	1500			
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10			
Complex Cyanide	µg/l	10	NONE	< 10	< 10			
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10			
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	124000	329000			
Sulphide	µg/l	5	NONE	< 5.0	< 5.0			
Chloride	mg/l	0.15	ISO 17025	60	120			
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15			
Nitrate as N	mg/l	0.01	ISO 17025	18.1	7.16			
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	80.2	31.7			
Nitrite as N	µg/l	1	ISO 17025	4.0	30			
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	13	99			
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	5.9	4.3			
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	5.5	3.0			
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	18	7.2			

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10			
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01			

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2			
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2			



Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				475821	475822			
<b>Sample Reference</b>				BH501	BH703			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				11.74	4.73			
<b>Date Sampled</b>				13/08/2015	13/08/2015			
<b>Time Taken</b>				1120	1230			
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0172	0.0058			
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.4	1.0			
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.61	0.22			
Barium (dissolved)	µg/l	0.06	ISO 17025	45	110			
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1			
Boron (dissolved)	µg/l	10	ISO 17025	120	48			
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	< 0.02			
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.8	0.4			
Copper (dissolved)	µg/l	0.5	ISO 17025	4.5	4.3			
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.006			
Lead (dissolved)	µg/l	0.2	ISO 17025	7.5	< 0.2			
Manganese (dissolved)	µg/l	0.05	ISO 17025	4.7	130			
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.37	0.20			
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	0.92	1.5			
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.1	3.0			
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.6	3.0			
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.9	0.3			
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.6	0.7			

Calcium (dissolved)	mg/l	0.012	ISO 17025	160	200			
Magnesium (dissolved)	mg/l	0.005	ISO 17025	10	11			
Potassium (dissolved)	mg/l	0.025	ISO 17025	13	48			
Phosphorus (total)	µg/l	20	ISO 17025	430	3000			

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10			

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10			





Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				475821	475822			
<b>Sample Reference</b>				BH501	BH703			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				11.74	4.73			
<b>Date Sampled</b>				13/08/2015	13/08/2015			
<b>Time Taken</b>				1120	1230			
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0			
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0			
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0			
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0			
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			



Analytical Report Number: 15-77128

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				475821	475822			
<b>Sample Reference</b>				BH501	BH703			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				11.74	4.73			
<b>Date Sampled</b>				13/08/2015	13/08/2015			
<b>Time Taken</b>				1120	1230			
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

<b>SVOCs</b>								
Analytical Parameter	Units	Limit of detection	Accreditation Status	475821	475822			
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05			
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05			
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05			
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05			
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05			
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05			
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05			
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05			
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05			
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05			
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05			
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05			
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05			
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05			
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05			
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05			
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05			
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05			
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05			
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05			
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05			
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05			
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05			
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05			
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05			
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05			
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05			
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05			
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05			
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05			
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05			
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05			
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05			
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05			
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02			
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05			
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05			
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05			
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05			
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-77128**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE

Iss No 15-77128-2



**Analytical Report Number : 15-77128**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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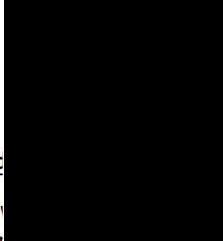
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## **Analytical Report Number : 15-77040**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	12/08/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	12/08/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	20/08/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	20/08/2015
<b>Samples Analysed:</b>	4 water samples		

**Signature**  


Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signature**  


Emma Leivers  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-77040

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	475326	475327	475328	475329	
Sample Reference	SW01	SW02	SW03	SW05	
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled	12/08/2015	12/08/2015	12/08/2015	12/08/2015	
Time Taken	1040	1145	1015	1115	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

**General Inorganics**

Parameter	Units	Limit	Standard	475326	475327	475328	475329
pH	pH Units	N/A	ISO 17025	8.6	7.9	8.0	7.8
Turbidity	NTU	1	NONE	< 1	< 1	< 1	< 1
Nitrate as N	mg/l	0.01	ISO 17025	4.36	0.56	1.00	7.24
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	19.3	2.49	4.42	32.1
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	1.4	1.8	3.4	1.3
Total Dissolved Solids (Gravimetric)	mg/l	4	NONE	3100	3700	3000	540
Dissolved Oxygen	mg/l	1	NONE	7.0	6.9	5.5	7.9

**Heavy Metals / Metalloids**

Parameter	Units	Limit	Standard	475326	475327	475328	475329
Phosphorus (dissolved)	µg/l	30	ISO 17025	< 30.0	505	50.5	< 30.0

**Microbiological (Subcontracted)**

Parameter	Units	Limit	Standard	475326	475327	475328	475329
Faecal Coliforms	mpn/100ml	N/A	NONE	15	816	37	81

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-77040**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Faecal Coliforms Subcon Stansted Labs	Subcontracted.	Subcontracted analysis		W	NONE
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-PL	W	NONE
Turbidity of in water	Determination of sample turbidity by colorimeter and comparison with standard reference samples.	In-house method based on Standard Method 8237	L083-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**

## BACTERIOLOGICAL TEST REPORT



**Client:** i2 Analytical LTD  
**Address:** 7 Woodshots Meadow  
 Croxley Green Business Park  
 Croxley Green  
 Hertfordshire  
 WD18 8YS

**Job Number:** M/182/22045  
**Report No:** 22967.1  
**Date Taken:** Wed, Aug 12th, 2015  
**Date Rec'd:** Fri, Aug 14th, 2015



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 sales@stanstedlabs.co.uk  
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**Site:** 15-77040

**FAO:** Trevor Hill

**Order No:** 7378 15-77040

Directors: B. Patel, K. Patel

Items Marked  $\square$  are not included in the UKAS Schedule

Sample ID	Description & Temperatures	Analysis	Result	Tested	Notes / Species
SL116313	475326 Water - Open Init Temp Temp > 1 Min Temp > 2 Min ---	Faecal Coliforms $\square$	15 MPN/100ml	14/08/2015	
SL116314	475327 Water - Open Init Temp Temp > 1 Min Temp > 2 Min ---	Faecal Coliforms $\square$	816 MPN/100ml	14/08/2015	
SL116315	475328 Water - Open Init Temp Temp > 1 Min Temp > 2 Min ---	Faecal Coliforms $\square$	37 MPN/100ml	14/08/2015	
SL116316	475329 Water - Open Init Temp Temp > 1 Min Temp > 2 Min ---	Faecal Coliforms $\square$	81 MPN/100ml	14/08/2015	



# BACTERIOLOGICAL TEST REPORT



**Client** i2 Analytical LTD  
**Address:** 7 Woodshots Meadow  
Croxley Green Business Park  
Croxley Green  
Hertfordshire  
WD18 8YS  
**Site:** 15-77040  
**FAO:** Trevor Hill  
**Order No:** 7378 15-77040

**Job Number:** M/182/22045  
**Report No:** 22967.1  
**Date Taken:** Wed, Aug 12th, 2015  
**Date Rec'd:** Fri, Aug 14th, 2015



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**www.stanstedlabs.co.uk**

Directors: B. Patel, K. Patel

## Items Marked $\mu$ are not included in the UKAS Schedule

Sample ID	Description & Temperatures	Analysis	Result	Tested	Notes / Species
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### Method Codes

B3.12 Coliforms and Escherichia coli

### Legend & Footnotes

cfu = Colony Forming Units.

mpn = Most Probable Number.

TNTC = Too Numerous to Count.

Tests Marked  $\mu$  are not included in our UKAS Schedule.

All Samples Analysed as received.

### Disclaimer

Results relate to water samples tested and should not be reproduced except in full, without the written approval of the laboratory.

----- END OF REPORT -----

B.Patel

Quality M

Date: Thu, Aug 20th 2015, 11:10



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## **Analytical Report Number : 15-77039**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	12/08/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	12/08/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	21/08/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	21/08/2015
<b>Samples Analysed:</b>	9 water samples		

**Sign**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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Analytical Report Number: 15-77039

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	475317				475318				475319				475320				475321			
Sample Reference	BH101				WS102				WS203				BH201				WS101			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	4.98				3.98				1.56				3.92				3.66			
Date Sampled	12/08/2015				12/08/2015				12/08/2015				12/08/2015				12/08/2015			
Time Taken	1000				1100				1200				1300				1000			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status																	

**General Inorganics**

Parameter	Units	Limit of detection	Accreditation Status	475317	475318	475319	475320	475321
pH	pH Units	N/A	ISO 17025	6.8	12.8	13.1	11.7	8.0
Electrical Conductivity	µS/cm	10	NONE	17000	34000	73000	4400	110000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	13	< 10	< 10
Complex Cyanide	µg/l	10	NONE	< 10	< 10	13	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO <sub>4</sub> #	µg/l	45	ISO 17025	532000	1530000	4720000	429000	11000000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	37000	5.8	< 5.0
Chloride	mg/l	0.15	ISO 17025	7000	3200	4700	460	28000
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	2800	5400	50000	2700	450000
Nitrate as N	mg/l	0.01	ISO 17025	0.09	0.14	0.36	0.83	0.80
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	0.42	0.62	1.61	3.69	3.53
Nitrite as N	µg/l	1	ISO 17025	1.0	300	410	590	11
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	< 5.0	970	1300	1900	36
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	69	97	1300	80	1800
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	4.4	1.4	34	9.7	24
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	< 0.3	0.4	0.8	1.4	0.8

**Total Phenols**

Parameter	Units	Limit of detection	Accreditation Status	475317	475318	475319	475320	475321
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10

**Speciated PAHs**

Parameter	Units	Limit of detection	Accreditation Status	475317	475318	475319	475320	475321
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

**Total PAH**

Parameter	Units	Limit of detection	Accreditation Status	475317	475318	475319	475320	475321
Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



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Sample Number	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	4.98				3.98				1.56				3.92				3.66			
Date Sampled	12/08/2015				12/08/2015				12/08/2015				12/08/2015				12/08/2015			
Time Taken	1000				1100				1200				1300				1000			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status																	

**Heavy Metals / Metalloids**

Element	Units	Limit of detection	Accreditation Status	475317	475318	475319	475320	475321
Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0026	20.2	0.647	0.432	0.0433
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.0	< 0.4	< 0.4	12	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.68	38.3	21.4	53.9	29.2
Barium (dissolved)	µg/l	0.06	ISO 17025	130	17	43	11	43
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	0.1	0.3	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	860	32	25	92	890
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.10	1.8
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.2	18	1.2	4.5	17
Copper (dissolved)	µg/l	0.5	ISO 17025	4.0	66	9.4	21	12
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.039	0.029	0.073	0.078
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	9.0	1.4	2.4	1.6
Manganese (dissolved)	µg/l	0.05	ISO 17025	250	0.38	0.22	1.6	89
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.94	< 0.05	1.33	0.71	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	1.8	100	730	33	4.6
Nickel (dissolved)	µg/l	0.5	ISO 17025	12	7.0	1200	17	19
Selenium (dissolved)	µg/l	0.6	ISO 17025	65	47	260	20	18
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.9	73	84	460	34
Zinc (dissolved)	µg/l	0.5	ISO 17025	1.9	1.8	2.1	< 0.5	1.9

Calcium (dissolved)	mg/l	0.012	ISO 17025	270	6.6	20	8.1	230
Magnesium (dissolved)	mg/l	0.005	ISO 17025	270	< 0.005	< 0.005	< 0.005	270
Potassium (dissolved) #	mg/l	0.025	ISO 17025	110	6800	12000	880	21000
Phosphorus (total)	µg/l	20	ISO 17025	97	670	89	15000	34000

**Monoaromatics**

Compound	Units	Limit of detection	Accreditation Status	475317	475318	475319	475320	475321
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 15-77039

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Sample Reference	BH101	WS102	WS203	BH201	WS101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	4.98	3.98	1.56	3.92	3.66
Date Sampled	12/08/2015	12/08/2015	12/08/2015	12/08/2015	12/08/2015
Time Taken	1000	1100	1200	1300	1000
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

**VOCS**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



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Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	0.40	11	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	0.17	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

# Results are an estimate only due to high dilutions

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 15-77039

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	475322	475323	475324	475325
Sample Reference	BH202	WS202	FIELD BLANK	TRIP BLANK
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.66	7.95	None Supplied	None Supplied
Date Sampled	12/08/2015	12/08/2015	12/08/2015	12/08/2015
Time Taken	1100	1200	1100	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

**General Inorganics**

Parameter	Units	Limit of detection	Accreditation Status	475322	475323	475324	475325
pH	pH Units	N/A	ISO 17025	7.4	13.0	10.3	8.6
Electrical Conductivity	µS/cm	10	NONE	14000	92000	540	10
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO <sub>4</sub> #	µg/l	45	ISO 17025	430000	13000000	3280	8300
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	4700	4300	0.61	2.5
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	4500	28000	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	0.41	0.27	0.05	0.19
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	1.82	1.19	0.21	0.83
Nitrite as N	µg/l	1	ISO 17025	14	910	9.0	6.0
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	46	3000	30	20
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	140	560	28	< 2.0
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	< 1.0	120	-	-
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.4	1.2	< 0.3	< 0.3

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2



Analytical Report Number: 15-77039

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	475322				475323		475324		475325	
<b>Sample Reference</b>	BH202				WS202		FIELD BLANK		TRIP BLANK	
<b>Sample Number</b>	None Supplied				None Supplied		None Supplied		None Supplied	
<b>Depth (m)</b>	3.66				7.95		None Supplied		None Supplied	
<b>Date Sampled</b>	12/08/2015				12/08/2015		12/08/2015		12/08/2015	
<b>Time Taken</b>	1100				1200		1100		1100	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>							

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0080	0.0734	0.0578	0.0020	
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.0	< 0.4	1.1	1.4	
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.76	15.6	0.36	< 0.15	
Barium (dissolved)	µg/l	0.06	ISO 17025	200	27	1.6	0.35	
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	
Boron (dissolved)	µg/l	10	ISO 17025	620	27	100	100	
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02	< 0.02	
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.9	1600	2.0	0.7	
Copper (dissolved)	µg/l	0.5	ISO 17025	2.2	27	3.1	3.3	
Iron (dissolved)	mg/l	0.004	ISO 17025	0.38	< 0.004	0.008	0.018	
Lead (dissolved)	µg/l	0.2	ISO 17025	0.2	3.0	< 0.2	< 0.2	
Manganese (dissolved)	µg/l	0.05	ISO 17025	860	< 0.05	5.8	0.53	
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.24	< 0.05	< 0.05	< 0.05	
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.8	380	2.8	0.45	
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.9	160	1.2	< 0.5	
Selenium (dissolved)	µg/l	0.6	ISO 17025	49	630	13	3.2	
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.9	61	0.5	< 0.2	
Zinc (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	4.6	< 0.5	

Calcium (dissolved)	mg/l	0.012	ISO 17025	310	38	0.19	0.20	
Magnesium (dissolved)	mg/l	0.005	ISO 17025	190	< 0.005	< 0.005	< 0.005	
Potassium (dissolved) #	mg/l	0.025	ISO 17025	81	18000	9.5	9.5	
Phosphorus (total)	µg/l	20	ISO 17025	470	160	< 20	< 20	

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	





Analytical Report Number: 15-77039

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	475322	475323	475324	475325
Sample Reference	BH202	WS202	FIELD BLANK	TRIP BLANK
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.66	7.95	None Supplied	None Supplied
Date Sampled	12/08/2015	12/08/2015	12/08/2015	12/08/2015
Time Taken	1100	1200	1100	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

**VOCS**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-77039

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	475322			475323	475324	475325
<b>Sample Reference</b>	BH202			WS202	FIELD BLANK	TRIP BLANK
<b>Sample Number</b>	None Supplied			None Supplied	None Supplied	None Supplied
<b>Depth (m)</b>	3.66			7.95	None Supplied	None Supplied
<b>Date Sampled</b>	12/08/2015			12/08/2015	12/08/2015	12/08/2015
<b>Time Taken</b>	1100			1200	1100	1100
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

SVOCs							
Analytical Parameter	Units	Limit of detection	Accreditation Status	475322	475323	475324	475325
Aniline	µg/l	0.05	NONE	< 0.05	2.9	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

# Results are an estimate only due to high dilutions

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-77039**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE



Analytical Report Number : 15-77039

Project / Site name: London Paramount Entertainment Resort

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



**Emma Leivers**

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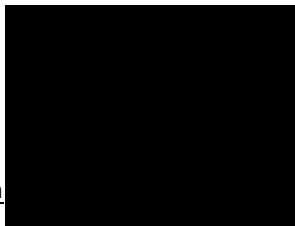
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## **Analytical Report Number : 15-76250**

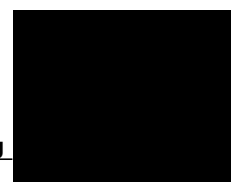
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	29/07/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	29/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	06/08/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	06/08/2015
<b>Samples Analysed:</b>	4 water samples		

**Sign**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sig**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76250

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470706	470707	470708	470709	
<b>Sample Reference</b>	Duplicate A	BH201	BH204	BH202	
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>	None Supplied	3.81	2.80	3.85	
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>	None Supplied	100	0900	1000	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**General Inorganics**

pH	pH Units	N/A	ISO 17025	13.1	11.4	7.6	7.8	
Electrical Conductivity	µS/cm	10	NONE	60000	3600	1800	11000	
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10	
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	4940000	347000	103000	452000	
Sulphide	µg/l	5	NONE	45000	77	< 5.0	< 5.0	
Chloride	mg/l	0.15	ISO 17025	4700	330	220	4200	
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	51000	190	1700	4400	
Nitrate as N	mg/l	0.01	ISO 17025	0.33	1.18	0.25	0.91	
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	1.45	5.25	1.09	4.05	
Nitrite as N	µg/l	1	ISO 17025	390	950	17	220	
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	1300	3100	56	740	
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	1100	64	31	99	
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	21	7.5	25	22	
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.7	2.1	< 0.3	1.1	

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	1700	< 10	< 10	< 10	
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	



Analytical Report Number: 15-76250

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470706	470707	470708	470709	
<b>Sample Reference</b>				Duplicate A	BH201	BH204	BH202	
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>				None Supplied	3.81	2.80	3.85	
<b>Date Sampled</b>				29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>				None Supplied	100	0900	1000	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.195	0.229	0.0352	0.0020	
Antimony (dissolved)	µg/l	0.4	ISO 17025	3.2	9.5	1.0	1.3	
Arsenic (dissolved)	µg/l	0.15	ISO 17025	19.3	28.5	1.77	1.31	
Barium (dissolved)	µg/l	0.06	ISO 17025	52	7.8	43	180	
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	
Boron (dissolved)	µg/l	10	ISO 17025	15	99	300	450	
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.29	0.05	< 0.02	< 0.02	
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.2	4.7	0.5	0.3	
Copper (dissolved)	µg/l	0.5	ISO 17025	4.7	8.8	2.1	3.2	
Iron (dissolved)	mg/l	0.004	ISO 17025	0.13	0.29	0.44	3.1	
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5	3.2	0.5	0.4	
Manganese (dissolved)	µg/l	0.05	ISO 17025	0.67	2.2	640	470	
Mercury (dissolved)	µg/l	0.05	ISO 17025	5.83	0.24	< 0.05	< 0.05	
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	1100	11	4.5	8.2	
Nickel (dissolved)	µg/l	0.5	ISO 17025	1700	7.3	7.3	13	
Selenium (dissolved)	µg/l	0.6	ISO 17025	480	8.9	5.2	39	
Vanadium (dissolved)	µg/l	0.2	ISO 17025	150	120	1.1	0.6	
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.4	2.0	2.4	14	

Calcium (dissolved)	mg/l	0.012	ISO 17025	46	8.6	91	320	
Magnesium (dissolved)	mg/l	0.005	ISO 17025	< 0.005	< 0.005	43	210	
Potassium (dissolved)	mg/l	0.025	ISO 17025	11000	570	65	130	
Phosphorus (total)	µg/l	20	ISO 17025	100	5200	1900	180	



Analytical Report Number: 15-76250

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470706	470707	470708	470709	
<b>Sample Reference</b>				Duplicate A	BH201	BH204	BH202	
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>				None Supplied	3.81	2.80	3.85	
<b>Date Sampled</b>				29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>				None Supplied	100	0900	1000	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	





Analytical Report Number: 15-76250

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>					470706	470707	470708	470709	
<b>Sample Reference</b>					Duplicate A	BH201	BH204	BH202	
<b>Sample Number</b>					None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>					None Supplied	3.81	2.80	3.85	
<b>Date Sampled</b>					29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>					None Supplied	100	0900	1000	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>						

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	



Analytical Report Number: 15-76250

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470706	470707	470708	470709	
<b>Sample Reference</b>	Duplicate A	BH201	BH204	BH202	
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>	None Supplied	3.81	2.80	3.85	
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>	None Supplied	100	0900	1000	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs								
Analytical Parameter	Units	Limit of detection	Accreditation Status	470706	470707	470708	470709	
Aniline	µg/l	0.05	NONE	16	< 0.05	< 0.05	< 0.05	
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-76250**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

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**Analytical Report Number : 15-76250**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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**Analytical Report Number : 15-76240**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 29/07/2015

**Your job number:** 30766

**Samples instructed on:** 29/07/2015

**Your order number:**

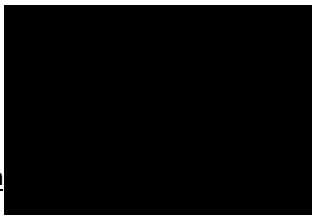
**Analysis completed by:** 06/08/2015

**Report Issue Number:** 1

**Report issued on:** 06/08/2015

**Samples Analysed:** 3 water samples

**Sign**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sign**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76240

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470679	470680	470681		
<b>Sample Reference</b>	Duplicate B	WS102	WS203		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	None Supplied	3.49	1.23		
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015		
<b>Time Taken</b>	None Supplied	1245	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**General Inorganics**

pH	pH Units	N/A	ISO 17025	7.3	12.8	13.1		
Electrical Conductivity	µS/cm	10	NONE	13000	19000	59000		
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10		
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	487000	2310000	5060000		
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	30000		
Chloride	mg/l	0.15	ISO 17025	5000	2800	4900		
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	1700	3900	53000		
Nitrate as N	mg/l	0.01	ISO 17025	0.46	0.15	0.34		
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	2.03	0.68	1.51		
Nitrite as N	µg/l	1	ISO 17025	3.0	290	400		
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	9.9	940	1300		
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	130	200	1200		
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	33	3.3	17		
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.5	0.4	0.7		

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	280	120	1700		
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2		
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2		



Analytical Report Number: 15-76240

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470679	470680	470681		
<b>Sample Reference</b>	Duplicate B	WS102	WS203		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	None Supplied	3.49	1.23		
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015		
<b>Time Taken</b>	None Supplied	1245	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0015	25.7	0.424		
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.2	2.6	2.9		
Arsenic (dissolved)	µg/l	0.15	ISO 17025	7.68	34.3	21.4		
Barium (dissolved)	µg/l	0.06	ISO 17025	140	22	56		
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1		
Boron (dissolved)	µg/l	10	ISO 17025	560	11	21		
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	0.44		
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0		
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.3	24	1.7		
Copper (dissolved)	µg/l	0.5	ISO 17025	1.3	52	7.8		
Iron (dissolved)	mg/l	0.004	ISO 17025	5.3	0.57	0.24		
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	28	0.7		
Manganese (dissolved)	µg/l	0.05	ISO 17025	290	0.70	0.48		
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.64	1.44	8.83		
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.3	77	940		
Nickel (dissolved)	µg/l	0.5	ISO 17025	21	4.5	1400		
Selenium (dissolved)	µg/l	0.6	ISO 17025	43	110	370		
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.7	80	170		
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.1	7.5	2.7		

Calcium (dissolved)	mg/l	0.012	ISO 17025	340	19	35		
Magnesium (dissolved)	mg/l	0.005	ISO 17025	280	< 0.005	< 0.005		
Potassium (dissolved)	mg/l	0.025	ISO 17025	240	8200	11000		
Phosphorus (total)	µg/l	20	ISO 17025	23	810	96		



Analytical Report Number: 15-76240

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470679	470680	470681		
<b>Sample Reference</b>				Duplicate B	WS102	WS203		
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>				None Supplied	3.49	1.23		
<b>Date Sampled</b>				29/07/2015	29/07/2015	29/07/2015		
<b>Time Taken</b>				None Supplied	1245	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10		

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10		





Analytical Report Number: 15-76240

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470679	470680	470681		
<b>Sample Reference</b>	Duplicate B	WS102	WS203		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	None Supplied	3.49	1.23		
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015		
<b>Time Taken</b>	None Supplied	1245	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		



Analytical Report Number: 15-76240

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470679	470680	470681		
<b>Sample Reference</b>	Duplicate B	WS102	WS203		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	None Supplied	3.49	1.23		
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015		
<b>Time Taken</b>	None Supplied	1245	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs						
Analytical Parameter	Units	Limit of detection	Accreditation Status	470679	470680	470681
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	19
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-76240**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

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**Analytical Report Number : 15-76240**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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## **Analytical Report Number : 15-76237**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 4 water samples

**Samples received on:** 29/07/2015

**Samples instructed on:** 29/07/2015

**Analysis completed by:** 06/08/2015

**Report issued on:** 06/08/2015

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 15-76237

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470638	470639	470640	470641	
<b>Sample Reference</b>	BH101	WS202	WS101	BH203	
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>	3.99	7.26	3.65	2.86	
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>	1315	1150	1230	0900	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**General Inorganics**

pH	pH Units	N/A	ISO 17025	6.7	13.1	8.2	7.6	
Electrical Conductivity	µS/cm	10	NONE	13000	64000	97000	2800	
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10	
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	461000	15000000	10000000	1000000	
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	
Chloride	mg/l	0.15	ISO 17025	5000	4600	29000	240	
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	39000	400000	1500	
Nitrate as N	mg/l	0.01	ISO 17025	0.36	0.26	0.94	0.18	
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	1.61	1.14	4.16	0.78	
Nitrite as N	µg/l	1	ISO 17025	4.0	1000	23	45	
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	13	3400	76	150	
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	3200	2100	5000	110	
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	33	2.1	130	23	
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.4	1.3	1.0	< 0.3	

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	1000	1000	< 10	
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	



Analytical Report Number: 15-76237

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470638	470639	470640	470641	
<b>Sample Reference</b>	BH101	WS202	WS101	BH203	
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>	3.99	7.26	3.65	2.86	
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>	1315	1150	1230	0900	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0014	0.0609	< 0.0010	0.0155	
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.4	2.5	< 0.4	3.5	
Arsenic (dissolved)	µg/l	0.15	ISO 17025	5.57	29.9	< 0.15	1.78	
Barium (dissolved)	µg/l	0.06	ISO 17025	130	24	3.7	140	
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	0.1	< 0.1	< 0.1	
Boron (dissolved)	µg/l	10	ISO 17025	540	25	710	370	
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.36	< 0.02	0.05	
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	2000	< 5.0	< 5.0	
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	2100	7.4	0.9	
Copper (dissolved)	µg/l	0.5	ISO 17025	0.9	33	1.8	9.9	
Iron (dissolved)	mg/l	0.004	ISO 17025	6.8	0.16	0.29	0.087	
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	4.9	< 0.2	1.2	
Manganese (dissolved)	µg/l	0.05	ISO 17025	230	0.47	16	410	
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.68	2.71	< 0.05	0.11	
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	3.3	680	0.22	9.9	
Nickel (dissolved)	µg/l	0.5	ISO 17025	21	240	< 0.5	11	
Selenium (dissolved)	µg/l	0.6	ISO 17025	41	820	< 0.6	21	
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.6	120	2.2	1.2	
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.9	< 0.5	20	9.1	

Calcium (dissolved)	mg/l	0.012	ISO 17025	320	61	130	320	
Magnesium (dissolved)	mg/l	0.005	ISO 17025	280	< 0.005	300	68	
Potassium (dissolved)	mg/l	0.025	ISO 17025	160	18000	1500	40	
Phosphorus (total)	µg/l	20	ISO 17025	21	58	22000	190	

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	



Analytical Report Number: 15-76237

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470638	470639	470640	470641	
<b>Sample Reference</b>	BH101	WS202	WS101	BH203	
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>	3.99	7.26	3.65	2.86	
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>	1315	1150	1230	0900	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0





Analytical Report Number: 15-76237

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	470638	470639	470640	470641	
<b>Sample Reference</b>	BH101	WS202	WS101	BH203	
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	
<b>Depth (m)</b>	3.99	7.26	3.65	2.86	
<b>Date Sampled</b>	29/07/2015	29/07/2015	29/07/2015	29/07/2015	
<b>Time Taken</b>	1315	1150	1230	0900	
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs								
	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-76237**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

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**Analytical Report Number : 15-76237**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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**Analytical Report Number : 15-76177**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 28/07/2015

**Your job number:** 30766

**Samples instructed on:** 29/07/2015

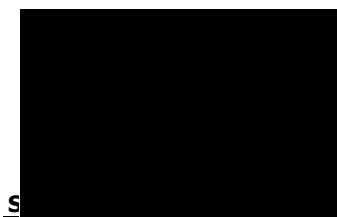
**Your order number:**

**Analysis completed by:** 04/08/2015

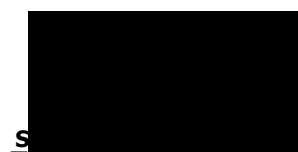
**Report Issue Number:** 1

**Report issued on:** 04/08/2015

**Samples Analysed:** 1 water sample



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76177

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470279				
<b>Sample Reference</b>				BH502				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				12.02				
<b>Date Sampled</b>				28/07/2015				
<b>Time Taken</b>				1340				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**General Inorganics**

pH	pH Units	N/A	ISO 17025	6.5				
Electrical Conductivity	µS/cm	10	NONE	4500				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Complex Cyanide	µg/l	10	NONE	< 10				
Free Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	600000				
Sulphide	µg/l	5	NONE	< 5.0				
Chloride	mg/l	0.15	ISO 17025	1100				
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15				
Nitrate as N	mg/l	0.01	ISO 17025	33.5				
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	148				
Nitrite as N	µg/l	1	ISO 17025	96				
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	320				
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	25				
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	< 1.0				
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	34				

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10				
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Coronene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2				
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2				



Analytical Report Number: 15-76177

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470279				
<b>Sample Reference</b>				BH502				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				12.02				
<b>Date Sampled</b>				28/07/2015				
<b>Time Taken</b>				1340				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0736				
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.4				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.79				
Barium (dissolved)	µg/l	0.06	ISO 17025	55				
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Boron (dissolved)	µg/l	10	ISO 17025	540				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	19				
Copper (dissolved)	µg/l	0.5	ISO 17025	4.3				
Iron (dissolved)	mg/l	0.004	ISO 17025	0.044				
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5				
Manganese (dissolved)	µg/l	0.05	ISO 17025	22				
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.47				
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	4.7				
Nickel (dissolved)	µg/l	0.5	ISO 17025	9.6				
Selenium (dissolved)	µg/l	0.6	ISO 17025	18				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.8				
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.5				

Calcium (dissolved)	mg/l	0.012	ISO 17025	520				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	24				
Potassium (dissolved)	mg/l	0.025	ISO 17025	89				
Phosphorus (total)	µg/l	20	ISO 17025	2400				



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<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10				



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Project / Site name: London Paramount Entertainment Resort

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<b>Depth (m)</b>				12.02				
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<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**VOCS**

Chloromethane	µg/l	1	ISO 17025	< 1.0				
Chloroethane	µg/l	1	ISO 17025	< 1.0				
Bromomethane	µg/l	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/l	1	NONE	< 1.0				
Trichlorofluoromethane	µg/l	1	NONE	< 1.0				
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0				
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloromethane	µg/l	1	ISO 17025	< 1.0				
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
Benzene	µg/l	1	ISO 17025	< 1.0				
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0				
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloroethene	µg/l	1	ISO 17025	< 1.0				
Dibromomethane	µg/l	1	ISO 17025	< 1.0				
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0				
Chlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-Xylene	µg/l	1	ISO 17025	< 1.0				
Styrene	µg/l	1	ISO 17025	< 1.0				
Tribromomethane	µg/l	1	ISO 17025	< 1.0				
o-Xylene	µg/l	1	ISO 17025	< 1.0				
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0				
Bromobenzene	µg/l	1	ISO 17025	< 1.0				
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0				
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				





Analytical Report Number: 15-76177

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				470279				
<b>Sample Reference</b>				BH502				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				12.02				
<b>Date Sampled</b>				28/07/2015				
<b>Time Taken</b>				1340				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

<b>SVOCs</b>								
Analytical Parameter	Units	Limit of detection	Accreditation Status	Result				
Aniline	µg/l	0.05	NONE	< 0.05				
Phenol	µg/l	0.05	NONE	< 0.05				
2-Chlorophenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05				
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05				
2-Methylphenol	µg/l	0.05	NONE	< 0.05				
Hexachloroethane	µg/l	0.05	NONE	< 0.05				
Nitrobenzene	µg/l	0.05	NONE	< 0.05				
4-Methylphenol	µg/l	0.05	NONE	< 0.05				
Isophorone	µg/l	0.05	NONE	< 0.05				
2-Nitrophenol	µg/l	0.05	NONE	< 0.05				
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05				
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05				
4-Chloroaniline	µg/l	0.05	NONE	< 0.05				
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05				
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05				
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05				
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05				
Dimethylphthalate	µg/l	0.05	NONE	< 0.05				
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Dibenzofuran	µg/l	0.05	NONE	< 0.05				
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Diethyl phthalate	µg/l	0.05	NONE	< 0.05				
4-Nitroaniline	µg/l	0.05	NONE	< 0.05				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Azobenzene	µg/l	0.05	NONE	< 0.05				
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Carbazole	µg/l	0.05	NONE	< 0.05				
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05				
Anthraquinone	µg/l	0.05	NONE	< 0.05				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-76177**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

Iss No 15-76177-1



**Analytical Report Number : 15-76177**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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**Analytical Report Number : 15-76174**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

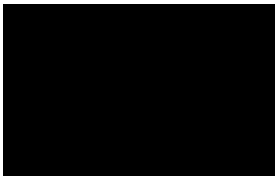
**Samples Analysed:** 5 water samples

**Samples received on:** 28/07/2015

**Samples instructed on:** 29/07/2015

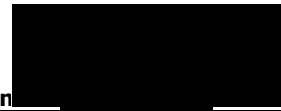
**Analysis completed by:** 04/08/2015

**Report issued on:** 04/08/2015



**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**



**Sign**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-76174

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	470264				470265	470266	470267	470268
Sample Reference	BH501				BH703	BH705	BH706	BH707
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	28/07/2015				28/07/2015	28/07/2015	28/07/2015	28/07/2015
Time Taken	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

**General Inorganics**

	pH Units	N/A	ISO 17025	7.2	7.2	7.2	7.1	7.0
Electrical Conductivity	µS/cm	10	NONE	1100	1400	1200	1200	1400
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	144000	373000	140000	147000	300000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	60	99	130	110	110
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	23	< 15	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	17.5	7.80	22.1	23.0	8.49
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	77.6	34.5	97.7	102	37.6
Nitrite as N	µg/l	1	ISO 17025	6.0	21	5.0	17	110
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	20	69	16	56	360
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	22	7.2	3.0	< 2.0	21
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	4.2	3.6	< 1.0	1.6	1.7
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	18	7.8	22	23	8.6

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10

**Speciated PAHs**

	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



Analytical Report Number: 15-76174

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	470264				470265				470266				470267				470268			
Sample Reference	BH501				BH703				BH705				BH706				BH707			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Date Sampled	28/07/2015				28/07/2015				28/07/2015				28/07/2015				28/07/2015			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status																	

**Heavy Metals / Metalloids**

Element	Units	Limit of detection	Accreditation Status	470264	470265	470266	470267	470268
Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0076	0.0019	0.0044	0.0087	0.0244
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.6	1.2	1.0	1.0	1.3
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.58	< 0.15	0.37	0.34	0.61
Barium (dissolved)	µg/l	0.06	ISO 17025	41	100	57	50	47
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	120	45	31	43	49
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	< 0.02	0.02	0.03	0.02
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.5	0.2	0.2	0.9	0.3
Copper (dissolved)	µg/l	0.5	ISO 17025	3.7	3.2	3.0	3.9	1.7
Iron (dissolved)	mg/l	0.004	ISO 17025	0.051	0.094	0.031	0.071	0.047
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	12	2.0
Manganese (dissolved)	µg/l	0.05	ISO 17025	9.5	160	66	29	470
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.09	0.10	< 0.05	< 0.05	0.07
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	0.86	1.5	0.35	0.32	7.9
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.5	6.5	5.7	5.2	21
Selenium (dissolved)	µg/l	0.6	ISO 17025	4.4	2.6	1.8	1.5	3.2
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.8	0.2	0.4	0.5	0.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.7	2.8	3.2	5.3	3.1

Calcium (dissolved)	mg/l	0.012	ISO 17025	200	240	230	230	290
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	13	8.5	12	13
Potassium (dissolved)	mg/l	0.025	ISO 17025	13	51	3.9	4.6	3.4
Phosphorus (total)	µg/l	20	ISO 17025	3700	250	640	1100	3900

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 15-76174

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	470264				470265	470266	470267	470268
Sample Reference	BH501				BH703	BH705	BH706	BH707
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	28/07/2015				28/07/2015	28/07/2015	28/07/2015	28/07/2015
Time Taken	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-76174

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	470264				470265				470266				470267				470268			
Sample Reference	BH501				BH703				BH705				BH706				BH707			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Date Sampled	28/07/2015				28/07/2015				28/07/2015				28/07/2015				28/07/2015			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status																	

SVOCs									
	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample





**Analytical Report Number : 15-76174**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

Iss No 15-76174-1

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**Analytical Report Number : 15-76174**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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## **Analytical Report Number : 15-75469**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	26/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	15/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	22/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	22/07/2015
<b>Samples Analysed:</b>	8 soil samples		

**Signe**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Emma W  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-75469

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	465846	465847	465848	465849	465850			
Sample Reference	BH502	BH502	BH502	BH502	BH502			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	1.60	2.10	4.70	5.60	7.70			
Date Sampled	24/06/2015	24/06/2015	24/06/2015	24/06/2015	24/06/2015			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected



Analytical Report Number: 15-75469

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				465851	465852	465853		
Sample Reference				BH502	BH502	BH502		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				9.00	9.40	11.30		
Date Sampled				24/06/2015	24/06/2015	24/06/2015		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
Asbestos in Soil				Type	N/A	ISO 17025	Not-detected	Not-detected
							Not-detected	



**Analytical Report Number : 15-75469**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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**Analytical Report Number : 15-75465**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

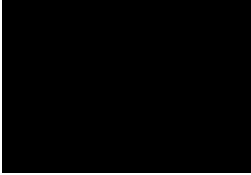
**Samples Analysed:** 7 water samples

**Samples received on:** 15/07/2015

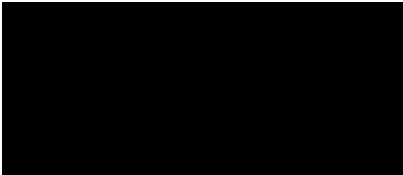
**Samples instructed on:** 15/07/2015

**Analysis completed by:** 23/07/2015

**Report issued on:** 23/07/2015

**Sig** 

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 15-75465

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	465834		465835		465836		465837		465838		465839		465840	
Sample Reference	BH101		WS101		BH204		BH203		BH201		BH501		BH502	
Sample Number	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	5.26		3.31		2.50		2.37		3.83		11.73		12.20	
Date Sampled	15/07/2015		15/07/2015		15/07/2015		15/07/2015		15/07/2015		15/07/2015		15/07/2015	
Time Taken	0900		1000		1100		1145		1245		1345		1410	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status											

**General Inorganics**

	pH Units	N/A	ISO 17025	7.2	8.9	7.4	7.5	11.3	7.5	7.3
Electrical Conductivity	µS/cm	10	NONE	6000	120000	1700	2800	3100	1200	4900
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	327000	9820000	111000	1080000	383000	136000	614000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1900	28000	230	260	260	75	1300
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	3600	410000	1300	1300	690	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	0.15	1.07	0.35	1.11	1.14	15.9	34.7
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	0.68	4.73	1.56	4.94	5.04	70.5	154
Nitrite as N	µg/l	1	ISO 17025	2.0	21	2.0	410	450	29	20
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	6.6	69	6.6	1300	1500	95	66
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	98	2200	43	62	62	14	37
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	50	8.2	5.7	3.0	2.8	4.5	4.8
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	< 0.3	1.1	0.4	1.5	1.6	16	35

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	110	< 10	< 10	< 10	< 10	< 10	< 10
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**Speciated PAHs**

	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
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**Heavy Metals / Metalloids**

	mg/l	0.001	ISO 17025	0.0030	0.0563	0.0036	0.0059	0.474	0.0039	0.0029
Aluminium (dissolved)	µg/l	0.4	ISO 17025	2.0	2.4	2.1	2.6	11	1.1	1.5
Antimony (dissolved)	µg/l	0.15	ISO 17025	0.72	55.3	2.64	1.71	41.3	0.44	0.69
Barium (dissolved)	µg/l	0.06	ISO 17025	110	37	39	130	8.3	43	66
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron (dissolved)	µg/l	10	ISO 17025	220	920	290	420	110	120	560
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.41	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	15	< 0.2	0.2	4.1	0.3	14
Copper (dissolved)	µg/l	0.5	ISO 17025	1.5	15	6.4	8.5	25	5.3	4.5
Iron (dissolved)	mg/l	0.004	ISO 17025	3.4	0.14	0.37	0.13	0.092	0.39	0.34
Lead (dissolved)	µg/l	0.2	ISO 17025	0.2	6.7	0.3	0.4	1.4	0.3	0.3
Manganese (dissolved)	µg/l	0.05	ISO 17025	800	48	210	420	1.5	16	18
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.37	0.52	1.37	1.08	0.09	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	18	9.2	5.9	9.7	18	1.8	5.8
Nickel (dissolved)	µg/l	0.5	ISO 17025	15	26	8.3	9.6	3.5	4.4	10
Selenium (dissolved)	µg/l	0.6	ISO 17025	94	36	6.4	25	11	3.6	22
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	37	3.2	1.3	230	0.9	1.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.5	4.3	1.4	2.9	< 0.5	7.1	3.9





Analytical Report Number: 15-75465

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	465834		465835		465836		465837		465838		465839		465840	
Sample Reference	BH101		WS101		BH204		BH203		BH201		BH501		BH502	
Sample Number	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	5.26		3.31		2.50		2.37		3.83		11.73		12.20	
Date Sampled	15/07/2015		15/07/2015		15/07/2015		15/07/2015		15/07/2015		15/07/2015		15/07/2015	
Time Taken	0900		1000		1100		1145		1245		1345		1410	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status											
Calcium (dissolved)	mg/l	0.012	ISO 17025	150	220	91	360	7.4	190	500				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	78	280	35	65	0.31	9.7	21				
Potassium (dissolved)	mg/l	0.025	ISO 17025	44	3100	46	55	580	13	85				
Phosphorus (total)	mg/l	0.05	ISO 17025	< 0.050	19	0.86	0.44	1.1	4.0	1.8				
Phosphorus (total)	µg/l	20	ISO 17025	24	19000	860	440	1100	4000	1800				

**Monoaromatics**

Parameter	Units	Limit of detection	Accreditation Status	465834	465835	465836	465837	465838	465839	465840
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

Parameter	Units	Limit of detection	Accreditation Status	465834	465835	465836	465837	465838	465839	465840
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	12	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	230	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	980	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	1200	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10





Analytical Report Number: 15-75465

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	465834	465835	465836	465837	465838	465839	465840
Sample Reference	BH101	WS101	BH204	BH203	BH201	BH501	BH502
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	5.26	3.31	2.50	2.37	3.83	11.73	12.20
Date Sampled	15/07/2015	15/07/2015	15/07/2015	15/07/2015	15/07/2015	15/07/2015	15/07/2015
Time Taken	0900	1000	1100	1145	1245	1345	1410
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

**SVOCs**

Compound	Units	Limit of detection	Accreditation Status	465834	465835	465836	465837	465838	465839	465840
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl) ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl) ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 15-75465

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>						
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<b>Depth (m)</b>						
<b>Date Sampled</b>						
<b>Time Taken</b>						
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**General Inorganics**

pH	pH Units	N/A	ISO 17025			
Electrical Conductivity	µS/cm	10	NONE			
Total Cyanide	µg/l	10	ISO 17025			
Complex Cyanide	µg/l	10	NONE			
Free Cyanide	µg/l	10	ISO 17025			
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025			
Sulphide	µg/l	5	NONE			
Chloride	mg/l	0.15	ISO 17025			
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025			
Nitrate as N	mg/l	0.01	ISO 17025			
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025			
Nitrite as N	µg/l	1	ISO 17025			
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025			
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025			
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025			
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE			

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025			
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025			
Acenaphthylene	µg/l	0.01	ISO 17025			
Acenaphthene	µg/l	0.01	ISO 17025			
Fluorene	µg/l	0.01	ISO 17025			
Phenanthrene	µg/l	0.01	ISO 17025			
Anthracene	µg/l	0.01	ISO 17025			
Fluoranthene	µg/l	0.01	ISO 17025			
Pyrene	µg/l	0.01	ISO 17025			
Benzo(a)anthracene	µg/l	0.01	ISO 17025			
Chrysene	µg/l	0.01	ISO 17025			
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025			
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025			
Benzo(a)pyrene	µg/l	0.01	ISO 17025			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025			
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025			
Benzo(ghi)perylene	µg/l	0.01	ISO 17025			

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025			
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**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025			
Antimony (dissolved)	µg/l	0.4	ISO 17025			
Arsenic (dissolved)	µg/l	0.15	ISO 17025			
Barium (dissolved)	µg/l	0.06	ISO 17025			
Beryllium (dissolved)	µg/l	0.1	ISO 17025			
Boron (dissolved)	µg/l	10	ISO 17025			
Cadmium (dissolved)	µg/l	0.02	ISO 17025			
Chromium (hexavalent)	µg/l	5	ISO 17025			
Chromium (dissolved)	µg/l	0.2	ISO 17025			
Copper (dissolved)	µg/l	0.5	ISO 17025			
Iron (dissolved)	mg/l	0.004	ISO 17025			
Lead (dissolved)	µg/l	0.2	ISO 17025			
Manganese (dissolved)	µg/l	0.05	ISO 17025			
Mercury (dissolved)	µg/l	0.05	ISO 17025			
Molybdenum (dissolved)	µg/l	0.05	ISO 17025			
Nickel (dissolved)	µg/l	0.5	ISO 17025			
Selenium (dissolved)	µg/l	0.6	ISO 17025			
Vanadium (dissolved)	µg/l	0.2	ISO 17025			
Zinc (dissolved)	µg/l	0.5	ISO 17025			



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<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			
Calcium (dissolved)	mg/l	0.012	ISO 17025			
Magnesium (dissolved)	mg/l	0.005	ISO 17025			
Potassium (dissolved)	mg/l	0.025	ISO 17025			
Phosphorus (total)	mg/l	0.05	ISO 17025			
Phosphorus (total)	µg/l	20	ISO 17025			

**Monoaromatics**

Benzene	µg/l	1	ISO 17025			
Toluene	µg/l	1	ISO 17025			
Ethylbenzene	µg/l	1	ISO 17025			
p & m-xylene	µg/l	1	ISO 17025			
o-xylene	µg/l	1	ISO 17025			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE			
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE			
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE			
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE			

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE			
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE			
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE			
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE			



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<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

<b>VOCs</b>						
Analytical Parameter	Units	Limit of detection	Accreditation Status			
Chloromethane	µg/l	1	ISO 17025			
Chloroethane	µg/l	1	ISO 17025			
Bromomethane	µg/l	1	ISO 17025			
Vinyl Chloride	µg/l	1	NONE			
Trichlorofluoromethane	µg/l	1	NONE			
1,1-Dichloroethene	µg/l	1	ISO 17025			
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025			
Cis-1,2-dichloroethene	µg/l	1	ISO 17025			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025			
1,1-Dichloroethane	µg/l	1	ISO 17025			
2,2-Dichloropropane	µg/l	1	ISO 17025			
Trichloromethane	µg/l	1	ISO 17025			
1,1,1-Trichloroethane	µg/l	1	ISO 17025			
1,2-Dichloroethane	µg/l	1	ISO 17025			
1,1-Dichloropropene	µg/l	1	ISO 17025			
Trans-1,2-dichloroethene	µg/l	1	ISO 17025			
Benzene	µg/l	1	ISO 17025			
Tetrachloromethane	µg/l	1	ISO 17025			
1,2-Dichloropropane	µg/l	1	ISO 17025			
Trichloroethene	µg/l	1	ISO 17025			
Dibromomethane	µg/l	1	ISO 17025			
Bromodichloromethane	µg/l	1	ISO 17025			
Cis-1,3-dichloropropene	µg/l	1	ISO 17025			
Trans-1,3-dichloropropene	µg/l	1	ISO 17025			
Toluene	µg/l	1	ISO 17025			
1,1,2-Trichloroethane	µg/l	1	ISO 17025			
1,3-Dichloropropane	µg/l	1	ISO 17025			
Dibromochloromethane	µg/l	1	ISO 17025			
Tetrachloroethene	µg/l	1	ISO 17025			
1,2-Dibromoethane	µg/l	1	ISO 17025			
Chlorobenzene	µg/l	1	ISO 17025			
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025			
Ethylbenzene	µg/l	1	ISO 17025			
p & m-Xylene	µg/l	1	ISO 17025			
Styrene	µg/l	1	ISO 17025			
Tribromomethane	µg/l	1	ISO 17025			
o-Xylene	µg/l	1	ISO 17025			
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025			
Isopropylbenzene	µg/l	1	ISO 17025			
Bromobenzene	µg/l	1	ISO 17025			
n-Propylbenzene	µg/l	1	ISO 17025			
2-Chlorotoluene	µg/l	1	ISO 17025			
4-Chlorotoluene	µg/l	1	ISO 17025			
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025			
tert-Butylbenzene	µg/l	1	ISO 17025			
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025			
sec-Butylbenzene	µg/l	1	ISO 17025			
1,3-Dichlorobenzene	µg/l	1	ISO 17025			
p-Isopropyltoluene	µg/l	1	ISO 17025			
1,2-Dichlorobenzene	µg/l	1	ISO 17025			
1,4-Dichlorobenzene	µg/l	1	ISO 17025			
Butylbenzene	µg/l	1	ISO 17025			
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025			
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025			
Hexachlorobutadiene	µg/l	1	ISO 17025			
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025			



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<b>Time Taken</b>						
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**SVOCs**

Aniline	µg/l	0.05	NONE			
Phenol	µg/l	0.05	NONE			
2-Chlorophenol	µg/l	0.05	NONE			
Bis(2-chloroethyl) ether	µg/l	0.05	NONE			
1,3-Dichlorobenzene	µg/l	0.05	NONE			
1,2-Dichlorobenzene	µg/l	0.05	NONE			
1,4-Dichlorobenzene	µg/l	0.05	NONE			
Bis(2-chloroisopropyl) ether	µg/l	0.05	NONE			
2-Methylphenol	µg/l	0.05	NONE			
Hexachloroethane	µg/l	0.05	NONE			
Nitrobenzene	µg/l	0.05	NONE			
4-Methylphenol	µg/l	0.05	NONE			
Isophorone	µg/l	0.05	NONE			
2-Nitrophenol	µg/l	0.05	NONE			
2,4-Dimethylphenol	µg/l	0.05	NONE			
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE			
1,2,4-Trichlorobenzene	µg/l	0.05	NONE			
Naphthalene	µg/l	0.01	ISO 17025			
2,4-Dichlorophenol	µg/l	0.05	NONE			
4-Chloroaniline	µg/l	0.05	NONE			
Hexachlorobutadiene	µg/l	0.05	NONE			
4-Chloro-3-methylphenol	µg/l	0.05	NONE			
2,4,6-Trichlorophenol	µg/l	0.05	NONE			
2,4,5-Trichlorophenol	µg/l	0.05	NONE			
2-Methylnaphthalene	µg/l	0.05	NONE			
2-Chloronaphthalene	µg/l	0.05	NONE			
Dimethylphthalate	µg/l	0.05	NONE			
2,6-Dinitrotoluene	µg/l	0.05	NONE			
Acenaphthylene	µg/l	0.01	ISO 17025			
Acenaphthene	µg/l	0.01	ISO 17025			
2,4-Dinitrotoluene	µg/l	0.05	NONE			
Dibenzofuran	µg/l	0.05	NONE			
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE			
Diethyl phthalate	µg/l	0.05	NONE			
4-Nitroaniline	µg/l	0.05	NONE			
Fluorene	µg/l	0.01	ISO 17025			
Azobenzene	µg/l	0.05	NONE			
Bromophenyl phenyl ether	µg/l	0.05	NONE			
Hexachlorobenzene	µg/l	0.02	NONE			
Phenanthrene	µg/l	0.01	ISO 17025			
Anthracene	µg/l	0.01	ISO 17025			
Carbazole	µg/l	0.05	NONE			
Dibutyl phthalate	µg/l	0.05	NONE			
Anthraquinone	µg/l	0.05	NONE			
Fluoranthene	µg/l	0.01	ISO 17025			
Pyrene	µg/l	0.01	ISO 17025			
Butyl benzyl phthalate	µg/l	0.05	NONE			
Benzo(a)anthracene	µg/l	0.01	ISO 17025			
Chrysene	µg/l	0.01	ISO 17025			
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025			
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025			
Benzo(a)pyrene	µg/l	0.01	ISO 17025			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025			
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025			
Benzo(ghi)perylene	µg/l	0.01	ISO 17025			

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-75465**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

ISS NO 15-75465-1

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**Analytical Report Number : 15-75465**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



**Emma Leivers**

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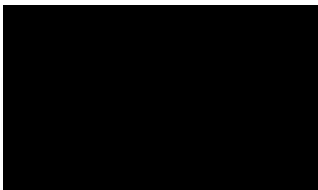
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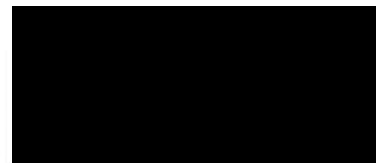
## **Analytical Report Number : 15-74953**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	19/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	2 leachate samples		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74953

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				463063	463064			
<b>Sample Reference</b>				BH101	BH101			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				4.50	7.00			
<b>Date Sampled</b>				18/06/2015	19/06/2015			
<b>Time Taken</b>				1210	0830			
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01			

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2			
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	4.1	9.7			
Barium (dissolved)	µg/l	0.05	ISO 17025	19	20			
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2			
Boron (dissolved)	µg/l	10	ISO 17025	180	150			
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08			
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.6	1.9			
Copper (dissolved)	µg/l	0.7	ISO 17025	2.5	6.6			
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0			
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5			
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.9	3.3			
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0			
Vanadium (dissolved)	µg/l	1.7	ISO 17025	5.1	66			
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.4	3.8			



Analytical Report Number: 15-74953

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				463063	463064			
<b>Sample Reference</b>				BH101	BH101			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				4.50	7.00			
<b>Date Sampled</b>				18/06/2015	19/06/2015			
<b>Time Taken</b>				1210	0830			
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0	< 1.0			
Toluene	µg/l	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0			
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0			
o-xylene	µg/l	1	NONE	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			



**Analytical Report Number : 15-74953**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



**Emma Leivers**

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## **Analytical Report Number : 15-74932**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	24/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample		

**Signature** [Redacted]

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signature** [Redacted]

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74932

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462993				
<b>Sample Reference</b>				WS101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				5.60				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1600				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Barium (dissolved)	µg/l	0.05	ISO 17025	78				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	41				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	3.2				
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.6				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	3.9				
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.9				



Analytical Report Number: 15-74932

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462993				
<b>Sample Reference</b>				WS101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				5.60				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1600				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				





**Analytical Report Number : 15-74932**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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## **Analytical Report Number : 15-74930**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	23/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample - 1 soil sample		

**Signed**

Rexona Kemmen  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74930

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462990				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				21.00				
<b>Date Sampled</b>				22/06/2015				
<b>Time Taken</b>				1525				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	11				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	NONE	8.1				
Electrical Conductivity	µS/cm	10	NONE	2400				
Total Cyanide	mg/kg	1	NONE	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	NONE	510				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	NONE	0.31				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	NONE	310				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	NONE	0.16				
Sulphide	mg/kg	1	NONE	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	NONE	2400				
Ammoniacal Nitrogen as N	mg/kg	0.5	NONE	1.8				
Organic Matter	%	0.1	NONE	< 0.1				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	NONE	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	NONE	< 0.05				
Acenaphthylene	mg/kg	0.1	NONE	< 0.10				
Acenaphthene	mg/kg	0.1	NONE	< 0.10				
Fluorene	mg/kg	0.1	NONE	< 0.10				
Phenanthrene	mg/kg	0.1	NONE	< 0.10				
Anthracene	mg/kg	0.1	NONE	< 0.10				
Fluoranthene	mg/kg	0.1	NONE	< 0.10				
Pyrene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10				
Chrysene	mg/kg	0.05	NONE	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74930

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	462990			
Sample Reference	BH101			
Sample Number	None Supplied			
Depth (m)	21.00			
Date Sampled	22/06/2015			
Time Taken	1525			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	510
Antimony (aqua regia extractable)	mg/kg	1	NONE	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	NONE	< 1.0
Barium (aqua regia extractable)	mg/kg	1	NONE	10
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	< 0.1
Boron (water soluble)	mg/kg	0.2	NONE	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	NONE	2.9
Copper (aqua regia extractable)	mg/kg	1	NONE	7.5
Iron (aqua regia extractable)	mg/kg	40	NONE	2400
Lead (aqua regia extractable)	mg/kg	1	NONE	9.3
Manganese (aqua regia extractable)	mg/kg	1	NONE	230
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	NONE	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	4.4
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	360
Selenium (aqua regia extractable)	mg/kg	1	NONE	2.8
Vanadium (aqua regia extractable)	mg/kg	1	NONE	4.9
Zinc (aqua regia extractable)	mg/kg	1	NONE	13

Calcium (aqua regia extractable)	mg/kg	20	NONE	460000
Magnesium (aqua regia extractable)	mg/kg	20	NONE	1200
Potassium (aqua regia extractable)	mg/kg	20	NONE	270

**Monoaromatics**

Benzene	µg/kg	1	NONE	< 1.0
Toluene	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0
p & m-xylene	µg/kg	1	NONE	< 1.0
o-xylene	µg/kg	1	NONE	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10



Analytical Report Number: 15-74930

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	462990
Sample Reference	BH101
Sample Number	None Supplied
Depth (m)	21.00
Date Sampled	22/06/2015
Time Taken	1525

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
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**VOCs**

Chloromethane	µg/kg	1	NONE	< 1.0				
Chloroethane	µg/kg	1	NONE	< 1.0				
Bromomethane	µg/kg	1	NONE	< 1.0				
Vinyl Chloride	µg/kg	1	NONE	< 1.0				
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0				
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	< 1.0				
Cis-1,2-dichloroethene	µg/kg	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0				
1,1-Dichloroethane	µg/kg	1	NONE	< 1.0				
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0				
Trichloromethane	µg/kg	1	NONE	< 1.0				
1,1,1-Trichloroethane	µg/kg	1	NONE	< 1.0				
1,2-Dichloroethane	µg/kg	1	NONE	< 1.0				
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0				
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0				
Benzene	µg/kg	1	NONE	< 1.0				
Tetrachloromethane	µg/kg	1	NONE	< 1.0				
1,2-Dichloropropane	µg/kg	1	NONE	< 1.0				
Trichloroethene	µg/kg	1	NONE	< 1.0				
Dibromomethane	µg/kg	1	NONE	< 1.0				
Bromodichloromethane	µg/kg	1	NONE	< 1.0				
Cis-1,3-dichloropropene	µg/kg	1	NONE	< 1.0				
Trans-1,3-dichloropropene	µg/kg	1	NONE	< 1.0				
Toluene	µg/kg	1	NONE	< 1.0				
1,1,2-Trichloroethane	µg/kg	1	NONE	< 1.0				
1,3-Dichloropropane	µg/kg	1	NONE	< 1.0				
Dibromochloromethane	µg/kg	1	NONE	< 1.0				
Tetrachloroethene	µg/kg	1	NONE	< 1.0				
1,2-Dibromoethane	µg/kg	1	NONE	< 1.0				
Chlorobenzene	µg/kg	1	NONE	< 1.0				
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0				
Ethylbenzene	µg/kg	1	NONE	< 1.0				
p & m-Xylene	µg/kg	1	NONE	< 1.0				
Styrene	µg/kg	1	NONE	< 1.0				
Tribromomethane	µg/kg	1	NONE	< 1.0				
o-Xylene	µg/kg	1	NONE	< 1.0				
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0				
Isopropylbenzene	µg/kg	1	NONE	< 1.0				
Bromobenzene	µg/kg	1	NONE	< 1.0				
n-Propylbenzene	µg/kg	1	NONE	< 1.0				
2-Chlorotoluene	µg/kg	1	NONE	< 1.0				
4-Chlorotoluene	µg/kg	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/kg	1	NONE	< 1.0				
tert-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2,4-Trimethylbenzene	µg/kg	1	NONE	< 1.0				
sec-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,3-Dichlorobenzene	µg/kg	1	NONE	< 1.0				
p-Isopropyltoluene	µg/kg	1	NONE	< 1.0				
1,2-Dichlorobenzene	µg/kg	1	NONE	< 1.0				
1,4-Dichlorobenzene	µg/kg	1	NONE	< 1.0				
Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	< 1.0				
1,2,4-Trichlorobenzene	µg/kg	1	NONE	< 1.0				
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0				
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0				



Analytical Report Number: 15-74930

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462990				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				21.00				
<b>Date Sampled</b>				22/06/2015				
<b>Time Taken</b>				1525				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	NONE	< 0.2				
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1				
2-Methylphenol	mg/kg	0.3	NONE	< 0.3				
Hexachloroethane	mg/kg	0.05	NONE	< 0.05				
Nitrobenzene	mg/kg	0.3	NONE	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	NONE	< 0.2				
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3				
Naphthalene	mg/kg	0.05	NONE	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1				
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1				
Acenaphthylene	mg/kg	0.1	NONE	< 0.10				
Acenaphthene	mg/kg	0.1	NONE	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2				
Dibenzofuran	mg/kg	0.2	NONE	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3				
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2				
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2				
Fluorene	mg/kg	0.1	NONE	< 0.10				
Azobenzene	mg/kg	0.3	NONE	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2				
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3				
Phenanthrene	mg/kg	0.1	NONE	< 0.10				
Anthracene	mg/kg	0.1	NONE	< 0.10				
Carbazole	mg/kg	0.3	NONE	< 0.3				
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2				
Anthraquinone	mg/kg	0.3	NONE	< 0.3				
Fluoranthene	mg/kg	0.1	NONE	< 0.10				
Pyrene	mg/kg	0.1	NONE	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10				
Chrysene	mg/kg	0.05	NONE	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05				



Analytical Report Number: 15-74930

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462991				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				21.00				
<b>Date Sampled</b>				22/06/2015				
<b>Time Taken</b>				1525				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	3.6				
Barium (dissolved)	µg/l	0.05	ISO 17025	94				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	13				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.7				
Copper (dissolved)	µg/l	0.7	ISO 17025	1.1				
Lead (dissolved)	µg/l	1	ISO 17025	1.4				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.1				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	8.5				



Analytical Report Number: 15-74930

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462991				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				21.00				
<b>Date Sampled</b>				22/06/2015				
<b>Time Taken</b>				1525				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				





**Analytical Report Number : 15-74930**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
462990	BH101	None Supplied	21.00	Grey chalk with gravel.**

\*\*Non MCERTS matrix



**Analytical Report Number : 15-74930**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS



Analytical Report Number : 15-74930

Project / Site name: London Paramount Entertainment Resort

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

i2 Job Number  
15-74930\_1 SD

## Sample Deviation Report



<b>Sample ID</b>		<b>BH101</b>
<b>Other ID</b>		
<b>Sample Type</b>		<b>S</b>
<b>Job Number</b>		<b>15-74930</b>
<b>Sample Number</b>		<b>462990</b>
<b>Deviation Code</b>		<b>c</b>
<b>Test Name</b>	<b>Method no</b>	
BTEX and MTBE in soil	L073S-PL	c
Complex cyanide in soil	L080-PL	c
Free cyanide in soil	L080-PL	c
Sulphide in soil	L010-PL	c
Total cyanide in soil	L080-PL	c
TPHCWG (Soil)	L076-PL	c
Volatile organic compounds in soil	L073S-PL	c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature



**Emma Leivers**

Geotechnical Engineering Ltd  
Centurion House  
Olympus Park  
Quedgeley  
Gloucester  
GL2 4NF

**t:** 01452 527 743  
**f:** 01452 729 314  
**e:** emma.leivers@qeoeng.co.uk

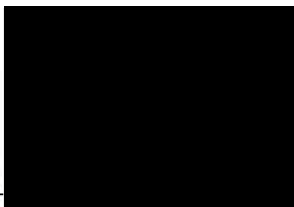
i2 Analytical Ltd.  
7 Woodshots Meadow,  
Croxy Green  
Business Park,  
Watford,  
Herts,  
WD18 8YS

**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

## **Analytical Report Number : 15-74927**

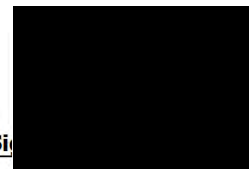
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	10/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74927

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462987				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.00				
<b>Date Sampled</b>				10/06/2015				
<b>Time Taken</b>				0950				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	1.4				
Acenaphthylene	µg/l	0.01	NONE	1.1				
Acenaphthene	µg/l	0.01	NONE	0.53				
Fluorene	µg/l	0.01	NONE	0.47				
Phenanthrene	µg/l	0.01	NONE	0.68				
Anthracene	µg/l	0.01	NONE	0.16				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	4.3				
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Barium (dissolved)	µg/l	0.05	ISO 17025	80				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	27				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	6.1				
Copper (dissolved)	µg/l	0.7	ISO 17025	2.7				
Lead (dissolved)	µg/l	1	ISO 17025	1.8				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	< 0.3				
Selenium (dissolved)	µg/l	4	ISO 17025	14				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	7.1				
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.8				



Analytical Report Number: 15-74927

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462987				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.00				
<b>Date Sampled</b>				10/06/2015				
<b>Time Taken</b>				0950				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	84				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	230				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	110				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	420				



**Analytical Report Number : 15-74927**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**





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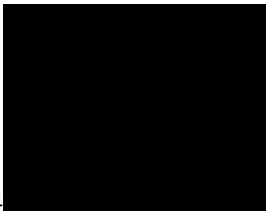
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## **Analytical Report Number : 15-74920**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	25/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74920

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				462909				
Sample Reference				WS102				
Sample Number				None Supplied				
Depth (m)				4.20				
Date Sampled				24/06/2015				
Time Taken				1625				
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					

Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

Total PAH

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Barium (dissolved)	µg/l	0.05	ISO 17025	40				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	< 10				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	2.0				
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.4				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7				
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.2				



Analytical Report Number: 15-74920

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462909				
<b>Sample Reference</b>				WS102				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				4.20				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				1625				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				



**Analytical Report Number : 15-74920**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



**Emma Leivers**

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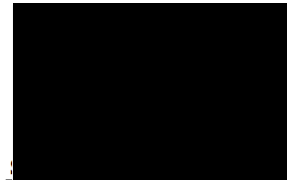
## **Analytical Report Number : 15-74919**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	29/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	2 leachate samples		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74919

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	462907	462908					
Sample Reference	BH203	BH203					
Sample Number	None Supplied	None Supplied					
Depth (m)	5.00	13.00					
Date Sampled	29/06/2015	29/06/2015					
Time Taken	1525	1610					
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01		
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01		

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2		
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1	3.7		
Barium (dissolved)	µg/l	0.05	ISO 17025	260	34		
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2		
Boron (dissolved)	µg/l	10	ISO 17025	< 10	68		
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08		
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.6	1.4		
Copper (dissolved)	µg/l	0.7	ISO 17025	2.6	2.4		
Lead (dissolved)	µg/l	1	ISO 17025	3.9	2.0		
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5		
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.4	1.4		
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0		
Vanadium (dissolved)	µg/l	1.7	ISO 17025	31	18		
Zinc (dissolved)	µg/l	0.4	ISO 17025	0.6	2.3		



Analytical Report Number: 15-74919

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	462907	462908					
Sample Reference	BH203	BH203					
Sample Number	None Supplied	None Supplied					
Depth (m)	5.00	13.00					
Date Sampled	29/06/2015	29/06/2015					
Time Taken	1525	1610					
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0	< 1.0		
Toluene	µg/l	1	NONE	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0		
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0		
o-xylene	µg/l	1	NONE	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	18		
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	170		
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	540		
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	1200		
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	2000		

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	200		
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	520		
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	1500		
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10		
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	2300		



**Analytical Report Number : 15-74919**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**





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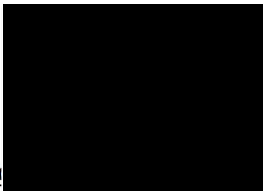
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## **Analytical Report Number : 15-74917**

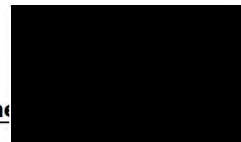
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	29/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample		

**Signature**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signature**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74917

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462899				
<b>Sample Reference</b>				WS204				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				4.45				
<b>Date Sampled</b>				29/06/2015				
<b>Time Taken</b>				1235				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	7.1				
Barium (dissolved)	µg/l	0.05	ISO 17025	32				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	170				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.5				
Copper (dissolved)	µg/l	0.7	ISO 17025	4.4				
Lead (dissolved)	µg/l	1	ISO 17025	3.5				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.9				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	35				
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.1				



Analytical Report Number: 15-74917

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462899				
<b>Sample Reference</b>				WS204				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				4.45				
<b>Date Sampled</b>				29/06/2015				
<b>Time Taken</b>				1235				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				



**Analytical Report Number : 15-74917**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



**Emma Leivers**

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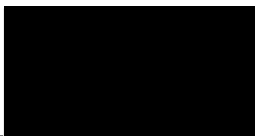
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## **Analytical Report Number : 15-74915**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	25/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample - 1 soil sample		

**Signed:**

  
Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

  
Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74915

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462875				
<b>Sample Reference</b>				BH204				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				13.00				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				1240				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	15				
Total mass of sample received	kg	0.001	NONE	1.4				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	NONE	8.2				
Electrical Conductivity	µS/cm	10	NONE	210				
Total Cyanide	mg/kg	1	NONE	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	NONE	670				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	NONE	0.085				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	NONE	85				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	NONE	0.043				
Sulphide	mg/kg	1	NONE	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	NONE	84				
Ammoniacal Nitrogen as N	mg/kg	0.5	NONE	< 0.5				
Organic Matter	%	0.1	NONE	0.1				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	NONE	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	NONE	< 0.05				
Acenaphthylene	mg/kg	0.1	NONE	< 0.10				
Acenaphthene	mg/kg	0.1	NONE	< 0.10				
Fluorene	mg/kg	0.1	NONE	< 0.10				
Phenanthrene	mg/kg	0.1	NONE	< 0.10				
Anthracene	mg/kg	0.1	NONE	< 0.10				
Fluoranthene	mg/kg	0.1	NONE	< 0.10				
Pyrene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10				
Chrysene	mg/kg	0.05	NONE	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74915

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	462875				
Sample Reference	BH204				
Sample Number	None Supplied				
Depth (m)	13.00				
Date Sampled	24/06/2015				
Time Taken	1240				

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
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**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	500			
Antimony (aqua regia extractable)	mg/kg	1	NONE	< 1.0			
Arsenic (aqua regia extractable)	mg/kg	1	NONE	1.6			
Barium (aqua regia extractable)	mg/kg	1	NONE	11			
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	< 0.1			
Boron (water soluble)	mg/kg	0.2	NONE	0.5			
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	< 0.2			
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	NONE	1.7			
Copper (aqua regia extractable)	mg/kg	1	NONE	3.6			
Iron (aqua regia extractable)	mg/kg	40	NONE	1100			
Lead (aqua regia extractable)	mg/kg	1	NONE	< 1.0			
Manganese (aqua regia extractable)	mg/kg	1	NONE	220			
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	NONE	< 0.3			
Nickel (aqua regia extractable)	mg/kg	1	NONE	1.3			
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	510			
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	NONE	2.9			
Zinc (aqua regia extractable)	mg/kg	1	NONE	9.4			

Calcium (aqua regia extractable)	mg/kg	20	NONE	640000			
Magnesium (aqua regia extractable)	mg/kg	20	NONE	1300			
Potassium (aqua regia extractable)	mg/kg	20	NONE	180			

**Monoaromatics**

Benzene	µg/kg	1	NONE	< 1.0			
Toluene	µg/kg	1	NONE	< 1.0			
Ethylbenzene	µg/kg	1	NONE	< 1.0			
p & m-xylene	µg/kg	1	NONE	< 1.0			
o-xylene	µg/kg	1	NONE	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	NONE	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	NONE	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	< 8.0			
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10			

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	NONE	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	NONE	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	< 10			
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10			

Analytical Report Number: 15-74915

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	462875			
<b>Sample Reference</b>	BH204			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	13.00			
<b>Date Sampled</b>	24/06/2015			
<b>Time Taken</b>	1240			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Chloromethane	µg/kg	1	NONE	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0
Bromomethane	µg/kg	1	NONE	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0
1,1-Dichloroethane	µg/kg	1	NONE	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	NONE	< 1.0
1,1,1-Trichloroethane	µg/kg	1	NONE	< 1.0
1,2-Dichloroethane	µg/kg	1	NONE	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	NONE	< 1.0
Tetrachloromethane	µg/kg	1	NONE	< 1.0
1,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloroethene	µg/kg	1	NONE	< 1.0
Dibromomethane	µg/kg	1	NONE	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	NONE	< 1.0
Toluene	µg/kg	1	NONE	< 1.0
1,1,2-Trichloroethane	µg/kg	1	NONE	< 1.0
1,3-Dichloropropane	µg/kg	1	NONE	< 1.0
Dibromochloromethane	µg/kg	1	NONE	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0
1,2-Dibromoethane	µg/kg	1	NONE	< 1.0
Chlorobenzene	µg/kg	1	NONE	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0
p & m-Xylene	µg/kg	1	NONE	< 1.0
Styrene	µg/kg	1	NONE	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0
o-Xylene	µg/kg	1	NONE	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	NONE	< 1.0
n-Propylbenzene	µg/kg	1	NONE	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	NONE	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	NONE	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	NONE	< 1.0
p-Isopropyltoluene	µg/kg	1	NONE	< 1.0
1,2-Dichlorobenzene	µg/kg	1	NONE	< 1.0
1,4-Dichlorobenzene	µg/kg	1	NONE	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	NONE	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0



Analytical Report Number: 15-74915

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	462875			
<b>Sample Reference</b>	BH204			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	13.00			
<b>Date Sampled</b>	24/06/2015			
<b>Time Taken</b>	1240			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

SVOCs				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Aniline	mg/kg	0.1	NONE	< 0.1
Phenol	mg/kg	0.2	NONE	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2
Isophorone	mg/kg	0.2	NONE	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3
Naphthalene	mg/kg	0.05	NONE	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1
Acenaphthylene	mg/kg	0.1	NONE	< 0.10
Acenaphthene	mg/kg	0.1	NONE	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2
Fluorene	mg/kg	0.1	NONE	< 0.10
Azobenzene	mg/kg	0.3	NONE	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3
Phenanthrene	mg/kg	0.1	NONE	< 0.10
Anthracene	mg/kg	0.1	NONE	< 0.10
Carbazole	mg/kg	0.3	NONE	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3
Fluoranthene	mg/kg	0.1	NONE	< 0.10
Pyrene	mg/kg	0.1	NONE	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10
Chrysene	mg/kg	0.05	NONE	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05

Analytical Report Number: 15-74915

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462874				
<b>Sample Reference</b>				BH204				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				6.70				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				0910				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	12				
Barium (dissolved)	µg/l	0.05	ISO 17025	11				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	58				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	4.0				
Copper (dissolved)	µg/l	0.7	ISO 17025	21				
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.2				
Selenium (dissolved)	µg/l	4	ISO 17025	7.1				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	21				
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.9				

Analytical Report Number: 15-74915

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462874				
<b>Sample Reference</b>				BH204				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				6.70				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				0910				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	6.6				
o-xylene	µg/l	1	NONE	2.1				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				



**Analytical Report Number : 15-74915**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
462875	BH204	None Supplied	13.00	White chalk.**

\*\*Non MCERTS matrix

**Analytical Report Number : 15-74915**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

**Analytical Report Number : 15-74915**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**

i2 Job Number  
15-74915\_1 SD

## Sample Deviation Report



<b>Sample ID</b>		<b>BH204</b>
<b>Other ID</b>		
<b>Sample Type</b>		<b>S</b>
<b>Job Number</b>		<b>15-74915</b>
<b>Sample Number</b>		<b>462875</b>
<b>Deviation Code</b>		<b>c</b>
<b>Test Name</b>	<b>Method no</b>	
BTEX and MTBE in soil	L073S-PL	c
Complex cyanide in soil	L080-PL	c
Free cyanide in soil	L080-PL	c
Sulphide in soil	L010-PL	c
Total cyanide in soil	L080-PL	c
TPHCWG (Soil)	L076-PL	c
Volatile organic compounds in soil	L073S-PL	c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature



**Emma Leivers**

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Herts,  
WD18 8YS

**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

**Samples received on:** 11/06/2015

**Samples instructed on:** 07/07/2015

**Analysis completed by:** 14/07/2015

**Report issued on:** 14/07/2015

**Signed**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74904

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462802				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				21.60				
<b>Date Sampled</b>				16/06/2015				
<b>Time Taken</b>				0920				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	23				
Total mass of sample received	kg	0.001	NONE	1.7				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	NONE	7.8				
Electrical Conductivity	µS/cm	10	NONE	1500				
Total Cyanide	mg/kg	1	NONE	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	NONE	610				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	NONE	0.27				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	NONE	270				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	NONE	0.13				
Sulphide	mg/kg	1	NONE	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	NONE	2200				
Ammoniacal Nitrogen as N	mg/kg	0.5	NONE	< 0.5				
Organic Matter	%	0.1	NONE	0.2				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	NONE	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	NONE	< 0.05				
Acenaphthylene	mg/kg	0.1	NONE	< 0.10				
Acenaphthene	mg/kg	0.1	NONE	< 0.10				
Fluorene	mg/kg	0.1	NONE	< 0.10				
Phenanthrene	mg/kg	0.1	NONE	< 0.10				
Anthracene	mg/kg	0.1	NONE	< 0.10				
Fluoranthene	mg/kg	0.1	NONE	< 0.10				
Pyrene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10				
Chrysene	mg/kg	0.05	NONE	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74904

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	462802			
<b>Sample Reference</b>	BH202			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	21.60			
<b>Date Sampled</b>	16/06/2015			
<b>Time Taken</b>	0920			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	510
Antimony (aqua regia extractable)	mg/kg	1	NONE	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	NONE	< 1.0
Barium (aqua regia extractable)	mg/kg	1	NONE	12
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	< 0.1
Boron (water soluble)	mg/kg	0.2	NONE	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	NONE	1.7
Copper (aqua regia extractable)	mg/kg	1	NONE	3.6
Iron (aqua regia extractable)	mg/kg	40	NONE	790
Lead (aqua regia extractable)	mg/kg	1	NONE	1.5
Manganese (aqua regia extractable)	mg/kg	1	NONE	200
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	NONE	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	9.5
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	390
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	NONE	3.6
Zinc (aqua regia extractable)	mg/kg	1	NONE	11

Calcium (aqua regia extractable)	mg/kg	20	NONE	690000
Magnesium (aqua regia extractable)	mg/kg	20	NONE	1400
Potassium (aqua regia extractable)	mg/kg	20	NONE	170

**Monoaromatics**

Benzene	µg/kg	1	NONE	< 1.0
Toluene	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0
p & m-xylene	µg/kg	1	NONE	< 1.0
o-xylene	µg/kg	1	NONE	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	3.4
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10



Analytical Report Number: 15-74904

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	462802			
<b>Sample Reference</b>	BH202			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	21.60			
<b>Date Sampled</b>	16/06/2015			
<b>Time Taken</b>	0920			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Chloromethane	µg/kg	1	NONE	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0
Bromomethane	µg/kg	1	NONE	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0
1,1-Dichloroethane	µg/kg	1	NONE	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	NONE	< 1.0
1,1,1-Trichloroethane	µg/kg	1	NONE	< 1.0
1,2-Dichloroethane	µg/kg	1	NONE	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	NONE	< 1.0
Tetrachloromethane	µg/kg	1	NONE	< 1.0
1,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloroethene	µg/kg	1	NONE	< 1.0
Dibromomethane	µg/kg	1	NONE	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	NONE	< 1.0
Toluene	µg/kg	1	NONE	< 1.0
1,1,2-Trichloroethane	µg/kg	1	NONE	< 1.0
1,3-Dichloropropane	µg/kg	1	NONE	< 1.0
Dibromochloromethane	µg/kg	1	NONE	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0
1,2-Dibromoethane	µg/kg	1	NONE	< 1.0
Chlorobenzene	µg/kg	1	NONE	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0
p & m-Xylene	µg/kg	1	NONE	< 1.0
Styrene	µg/kg	1	NONE	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0
o-Xylene	µg/kg	1	NONE	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	NONE	< 1.0
n-Propylbenzene	µg/kg	1	NONE	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	NONE	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	NONE	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	NONE	< 1.0
p-Isopropyltoluene	µg/kg	1	NONE	< 1.0
1,2-Dichlorobenzene	µg/kg	1	NONE	< 1.0
1,4-Dichlorobenzene	µg/kg	1	NONE	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	NONE	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0



Analytical Report Number: 15-74904

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462802				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				21.60				
<b>Date Sampled</b>				16/06/2015				
<b>Time Taken</b>				0920				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	NONE	< 0.2				
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1				
2-Methylphenol	mg/kg	0.3	NONE	< 0.3				
Hexachloroethane	mg/kg	0.05	NONE	< 0.05				
Nitrobenzene	mg/kg	0.3	NONE	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	NONE	< 0.2				
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3				
Naphthalene	mg/kg	0.05	NONE	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1				
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1				
Acenaphthylene	mg/kg	0.1	NONE	< 0.10				
Acenaphthene	mg/kg	0.1	NONE	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2				
Dibenzofuran	mg/kg	0.2	NONE	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3				
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2				
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2				
Fluorene	mg/kg	0.1	NONE	< 0.10				
Azobenzene	mg/kg	0.3	NONE	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2				
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3				
Phenanthrene	mg/kg	0.1	NONE	< 0.10				
Anthracene	mg/kg	0.1	NONE	< 0.10				
Carbazole	mg/kg	0.3	NONE	< 0.3				
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2				
Anthraquinone	mg/kg	0.3	NONE	< 0.3				
Fluoranthene	mg/kg	0.1	NONE	< 0.10				
Pyrene	mg/kg	0.1	NONE	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10				
Chrysene	mg/kg	0.05	NONE	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05				



**Analytical Report Number : 15-74904**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
462802	BH202	None Supplied	21.60	White chalk.**

\*\*Non MCERTS matrix



**Analytical Report Number : 15-74904**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE



Analytical Report Number : 15-74904

Project / Site name: London Paramount Entertainment Resort

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

i2 Job Number  
15-74904\_1 SD

## Sample Deviation Report



<b>Sample ID</b>		<b>BH202</b>
<b>Other ID</b>		
<b>Sample Type</b>		<b>S</b>
<b>Job Number</b>		<b>15-74904</b>
<b>Sample Number</b>		<b>462802</b>
<b>Deviation Code</b>		<b>c</b>
<b>Test Name</b>	<b>Method no</b>	
Complex cyanide in soil	L080-PL	c
Free cyanide in soil	L080-PL	c
Monohydric phenols in soil	L080-PL	c
Semi-volatile organic compounds in soil	L064-PL	c
Speciated WAC-17 PAHs in soil	L064-PL	c
Sulphide in soil	L010-PL	c
Total cyanide in soil	L080-PL	c
Total oxidised nitrogen in soil		c
Volatile organic compounds in soil	L073S-PL	c
BTEX and MTBE in soil	L073S-PL	c
Speciated WAC-17 PAHs in soil	L064-PL	c
Ammoniacal Nitrogen as N in soil	L082-PL	c
TPHCWG (Soil)	L076-PL	c
Volatile organic compounds in soil	L073S-PL	c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature





**Emma Leivers**

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GL2 4NF

**t:** 01452 527 743  
**f:** 01452 729 314  
**e:** emma.leivers@qeoeng.co.uk

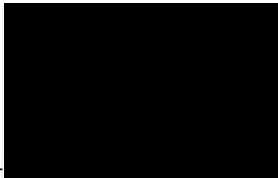
i2 Analytical Ltd.  
7 Woodshots Meadow,  
Croxley Green  
Business Park,  
Watford,  
Herts,  
WD18 8YS

**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

## **Analytical Report Number : 15-74902**

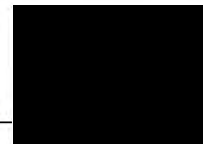
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	07/07/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	1 leachate sample		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 15-74902

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462800				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				11.50				
<b>Date Sampled</b>				11/06/2015				
<b>Time Taken</b>				None Supplied				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01				
Acenaphthylene	µg/l	0.01	NONE	< 0.01				
Acenaphthene	µg/l	0.01	NONE	< 0.01				
Fluorene	µg/l	0.01	NONE	< 0.01				
Phenanthrene	µg/l	0.01	NONE	< 0.01				
Anthracene	µg/l	0.01	NONE	< 0.01				
Fluoranthene	µg/l	0.01	NONE	< 0.01				
Pyrene	µg/l	0.01	NONE	< 0.01				
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01				
Chrysene	µg/l	0.01	NONE	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01				
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	20				
Barium (dissolved)	µg/l	0.05	ISO 17025	52				
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Boron (dissolved)	µg/l	10	ISO 17025	120				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.6				
Copper (dissolved)	µg/l	0.7	ISO 17025	9.2				
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.7				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.1				



Analytical Report Number: 15-74902

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462800				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				11.50				
<b>Date Sampled</b>				11/06/2015				
<b>Time Taken</b>				None Supplied				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0				
Toluene	µg/l	1	NONE	< 1.0				
Ethylbenzene	µg/l	1	NONE	< 1.0				
p & m-xylene	µg/l	1	NONE	< 1.0				
o-xylene	µg/l	1	NONE	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				



**Analytical Report Number : 15-74902**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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## **Analytical Report Number : 15-74900**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	26/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	07/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	14/07/2015
<b>Samples Analysed:</b>	2 leachate samples		

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74900

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		462796	463176				
<b>Sample Reference</b>		WS202	WS202				
<b>Sample Number</b>		None Supplied	460461				
<b>Depth (m)</b>		6.70	11.70				
<b>Date Sampled</b>		25/06/2015	26/06/2015				
<b>Time Taken</b>		None Supplied	None Supplied				
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Speciated PAHs**

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01		
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01		

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2		
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**Heavy Metals / Metalloids**

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1	8.8		
Barium (dissolved)	µg/l	0.05	ISO 17025	440	30		
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2		
Boron (dissolved)	µg/l	10	ISO 17025	12	170		
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08		
Chromium (dissolved)	µg/l	0.4	ISO 17025	180	0.7		
Copper (dissolved)	µg/l	0.7	ISO 17025	7.6	2.7		
Lead (dissolved)	µg/l	1	ISO 17025	1.5	1.2		
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5		
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.1	0.8		
Selenium (dissolved)	µg/l	4	ISO 17025	18	< 4.0		
Vanadium (dissolved)	µg/l	1.7	ISO 17025	12	25		
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.2	1.3		



Analytical Report Number: 15-74900

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				462796	463176			
<b>Sample Reference</b>				WS202	WS202			
<b>Sample Number</b>				None Supplied	460461			
<b>Depth (m)</b>				6.70	11.70			
<b>Date Sampled</b>				25/06/2015	26/06/2015			
<b>Time Taken</b>				None Supplied	None Supplied			
<b>Analytical Parameter (Leachate Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	NONE	< 1.0	< 1.0			
Toluene	µg/l	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0			
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0			
o-xylene	µg/l	1	NONE	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			



**Analytical Report Number : 15-74900**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**





**Stephen Farrer**

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## **Analytical Report Number : 15-74897**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	24/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	08/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	09/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	09/07/2015
<b>Samples Analysed:</b>	1 soil sample		

**Signed:** \_\_\_\_\_

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:** \_\_\_\_\_

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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**Analytical Report Number: 15-74897**

**Project / Site name: London Paramount Entertainment Resort**

<b>Lab Sample Number</b>				462770				
<b>Sample Reference</b>				BH501				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.70				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				None Supplied				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				



**Analytical Report Number : 15-74897**

**Project / Site name: London Paramount Entertainment Resort**

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

<b>Analytical Test Name</b>	<b>Analytical Method Description</b>	<b>Analytical Method Reference</b>	<b>Method number</b>	<b>Wet / Dry Analysis</b>	<b>Accreditation Status</b>
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



**Emma Leivers**

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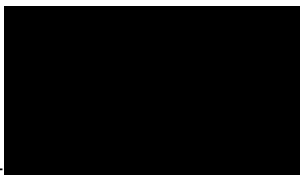
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## **Analytical Report Number : 15-74657**

Replaces Analytical Report Number : 15-74657, issue no. 1

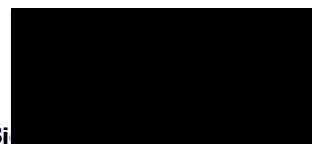
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	01/07/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	03/07/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	09/07/2015
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	09/07/2015
<b>Samples Analysed:</b>	3 soil samples		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Si**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

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

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asbestos - 6 months from reporting

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Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	461260	461261	461262			
Sample Reference	BH201	BH201	BH201			
Sample Number	None Supplied	None Supplied	None Supplied			
Depth (m)	2.90	5.80	7.20			
Date Sampled	30/06/2015	01/07/2015	01/07/2015			
Time Taken	1645	0950	1010			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	42	43
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected
Asbestos Quantification	%	0.001	ISO 17025	-	-	< 0.001

**General Inorganics**

	pH Units	N/A	MCERTS	11.8	11.3	11.3
pH						
Electrical Conductivity	µS/cm	10	NONE	2400	5300	6900
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	30000	53000	48000
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	3.2	7.8	10
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	3200	7800	10000
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.6	3.9	5.1
Sulphide	mg/kg	1	MCERTS	200	86	170
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	180	5800	9100
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	2.9	4.1
Organic Matter	%	0.1	MCERTS	0.2	0.2	0.4
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

**Speciated PAHs**

	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Naphthalene	mg/kg	0.05	MCERTS	< 0.10	< 0.10	< 0.10
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	1.1	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.38	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.17	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	1.8	< 1.6

Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		461260	461261	461262		
<b>Sample Reference</b>		BH201	BH201	BH201		
<b>Sample Number</b>		None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>		2.90	5.80	7.20		
<b>Date Sampled</b>		30/06/2015	01/07/2015	01/07/2015		
<b>Time Taken</b>		1645	0950	1010		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	22000	38000	28000	
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	22	15	
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	350	280	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	2.1	1.9	
Boron (water soluble)	mg/kg	0.2	MCERTS	9.0	4.5	3.8	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.5	11	12	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	30	29	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57	78	68	
Iron (aqua regia extractable)	mg/kg	40	MCERTS	24000	17000	14000	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	400	390	
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	300	270	280	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.1	0.9	1.0	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	33	26	
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	440	470	440	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	3.8	2.6	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	42	81	67	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	270	370	500	

Calcium (aqua regia extractable)	mg/kg	20	NONE	280000	320000	310000	
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3800	3900	3700	
Potassium (aqua regia extractable)	mg/kg	20	NONE	18000	35000	31000	

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	4.9	< 2.0	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	19	< 8.0	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	92	8.7	< 8.0	
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	120	< 10	< 10	

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10	

Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		461260	461261	461262		
<b>Sample Reference</b>		BH201	BH201	BH201		
<b>Sample Number</b>		None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>		2.90	5.80	7.20		
<b>Date Sampled</b>		30/06/2015	01/07/2015	01/07/2015		
<b>Time Taken</b>		1645	0950	1010		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

VOCs						
Compound	Units	Limit of detection	Accreditation Status	461260	461261	461262
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0

Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	461260	461261	461262		
<b>Sample Reference</b>	BH201	BH201	BH201		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	2.90	5.80	7.20		
<b>Date Sampled</b>	30/06/2015	01/07/2015	01/07/2015		
<b>Time Taken</b>	1645	0950	1010		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	461260	461261	461262
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	1.1	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.38	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.17	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05





**Analytical Report Number:** 15-74657  
**Project / Site name:** London Paramount Entertainment Resort  
**Your Order No:**

## Certificate of Analysis - Asbestos Quantification

### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

Any material greater than 16mm is considered as Bulk sample and reported separately, asbestos content (if any) is not included in the final Quantitative analysis. The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.  
Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
461262	BH201	7.20	87	Loose Fibres	Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditator

**Analytical Report Number : 15-74657**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
461260	BH201	None Supplied	2.90	Light grey sandy clay with gravel and rubble.
461261	BH201	None Supplied	5.80	Light grey sandy clay with rubble.
461262	BH201	None Supplied	7.20	Grey sandy clay with vegetation.

**Analytical Report Number : 15-74657**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

**Analytical Report Number : 15-74657**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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**Emma Leivers**

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**Analytical Report Number : 15-74657**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 01/07/2015

**Your job number:** 30766

**Samples instructed on:** 03/07/2015

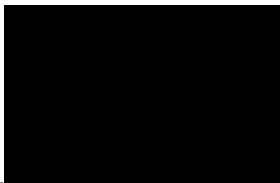
**Your order number:**

**Analysis completed by:** 09/07/2015

**Report Issue Number:** 1

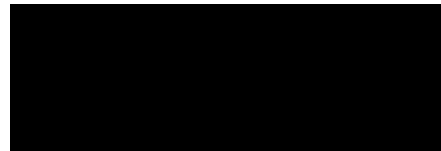
**Report issued on:** 09/07/2015

**Samples Analysed:** 3 soil samples



**Signed**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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MCERTS



Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	461260			461261			461262		
Sample Reference	BH201			BH201			BH201		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	2.90			5.80			7.20		
Date Sampled	30/06/2015			01/07/2015			01/07/2015		
Time Taken	1645			0950			1010		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	16	42	43			
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0			

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Amosite		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected		
Asbestos Quantification	%	0.001	ISO 17025	-	-	< 0.001		

**General Inorganics**

pH	pH Units	N/A	MCERTS	11.8	11.3	11.3		
Electrical Conductivity	µS/cm	10	NONE	2400	5300	6900		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1		
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	30000	53000	48000		
Water Soluble Sulphate (Soil Equivalent)	q/l	0.0025	MCERTS	3.2	7.8	10		
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	3200	7800	10000		
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	q/l	0.00125	MCERTS	1.6	3.9	5.1		
Sulphide	mg/kg	1	MCERTS	200	86	170		
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	180	5800	9100		
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	2.9	4.1		
Organic Matter	%	0.1	MCERTS	0.2	0.2	0.4		
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0		
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20		
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0		

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	1.1	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.10	< 0.10		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.38	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.17	< 0.10		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05		

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	1.8	< 1.6		
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Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	461260			461261	461262		
<b>Sample Reference</b>	BH201			BH201	BH201		
<b>Sample Number</b>	None Supplied			None Supplied	None Supplied		
<b>Depth (m)</b>	2.90			5.80	7.20		
<b>Date Sampled</b>	30/06/2015			01/07/2015	01/07/2015		
<b>Time Taken</b>	1645			0950	1010		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	22000	38000	28000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	22	15		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	350	280		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	2.1	1.9		
Boron (water soluble)	mg/kg	0.2	MCERTS	9.0	4.5	3.8		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.5	11	12		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	30	29		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57	78	68		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	24000	17000	14000		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	400	390		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	300	270	280		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.1	0.9	1.0		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	33	26		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	440	470	440		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	3.8	2.6		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	42	81	67		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	270	370	500		

Calcium (aqua regia extractable)	mg/kg	20	NONE	280000	320000	310000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3800	3900	3700		
Potassium (aqua regia extractable)	mg/kg	20	NONE	18000	35000	31000		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	4.9	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	19	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	92	8.7	< 8.0		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	120	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10		



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Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	461260			461261			461262		
<b>Sample Reference</b>	BH201			BH201			BH201		
<b>Sample Number</b>	None Supplied			None Supplied			None Supplied		
<b>Depth (m)</b>	2.90			5.80			7.20		
<b>Date Sampled</b>	30/06/2015			01/07/2015			01/07/2015		
<b>Time Taken</b>	1645			0950			1010		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>						

<b>VOCs</b>									
Compound	Units	Limit of detection	Accreditation Status	461260	461261	461262			
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			





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Analytical Report Number: 15-74657

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	461260			461261	461262		
<b>Sample Reference</b>	BH201			BH201	BH201		
<b>Sample Number</b>	None Supplied			None Supplied	None Supplied		
<b>Depth (m)</b>	2.90			5.80	7.20		
<b>Date Sampled</b>	30/06/2015			01/07/2015	01/07/2015		
<b>Time Taken</b>	1645			0950	1010		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

SVOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	461260	461261	461262	
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	1.1	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.10	< 0.10	
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.38	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.17	< 0.10	
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	



**Analytical Report Number : 15-74657**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
461260	BH201	None Supplied	2.90	Light grey sandy clay with gravel and rubble.
461261	BH201	None Supplied	5.80	Light grey sandy clay with rubble.
461262	BH201	None Supplied	7.20	Grey sandy clay with vegetation.



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**Analytical Report Number : 15-74657****Project / Site name: London Paramount Entertainment Resort****Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

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



4041



MCERTS

**Analytical Report Number : 15-74657****Project / Site name: London Paramount Entertainment Resort****Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

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



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## **Analytical Report Number : 15-74514**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	29/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	30/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	07/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	07/07/2015
<b>Samples Analysed:</b>	1 wac multi sample		

**Signed:**

  
Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

  
Dr Irma Doyle  
Assistant Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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### Waste Acceptance Criteria Analytical Results

<b>Report No:</b>	15-74514					
<b>Client:</b>	GEOENG					
<b>Location</b>	London Paramount Entertainment Resort					
<b>Lab Reference (Sample Number)</b>	460473			<b>Landfill Waste Acceptance Criteria</b>		
<b>Sampling Date</b>	25/06/2015			<b>Limits</b>		
<b>Sample ID</b>	WS202			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
<b>Depth (m)</b>	2.70					
<b>Solid Waste Analysis</b>						
TOC (%)**	0.2			3%	5%	6%
Loss on Ignition (%) **	-			--	--	10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.30			1	--	--
Mineral Oil (mg/kg)	24			500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6			100	--	--
pH (units)**	-			--	>6	--
Acid Neutralisation Capacity (mol / kg)	-			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2
Barium *	0.36	0.34		3.4	20	100
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1
Chromium *	0.037	0.017		0.20	0.5	10
Copper *	< 0.0010	< 0.0030		< 0.020	2	50
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2
Molybdenum *	0.013	0.0057		0.065	0.5	10
Nickel *	< 0.0010	< 0.0010		0.0070	0.4	10
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5
Zinc *	0.0017	< 0.0010		< 0.020	4	50
Chloride *	27	7.3		97	800	4000
Fluoride	1.6	1.5		16	10	150
Sulphate *	280	150		1600	1000	20000
TDS	3000	1500		17000	4000	60000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-
DOC	4.3	2.6		28	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	2.0					
Dry Matter (%)	79					
Moisture (%)	21					
<b>Stage 1</b>						
Volume Eluate L2 (litres)	0.31					
Filtered Eluate VE1 (litres)	0.21					

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

\* = UKAS accredited (liquid eluate analysis only)

\*\* = MCERTS accredited



**Analytical Report Number : 15-74514**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
460473	WS202	None Supplied	2.70	Beige loam and sand.

**Analytical Report Number : 15-74514**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Seciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**





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## **Analytical Report Number : 15-74513**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	29/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	30/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	08/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	08/07/2015
<b>Samples Analysed:</b>	14 soil samples		

**Signed:** \_\_\_\_\_

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460459	460460	460461	460462	460463			
Sample Reference	WS202	WS202	WS202	WS204	WS204			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	1.65	3.70	11.70	0.50	1.90			
Date Sampled	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	1205			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	10	25	40	28	26
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	11.4	12.1	10.5	10.9	11.5
pH								
Electrical Conductivity	µS/cm	10	NONE	4400	6800	3200	1300	1600
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	17000	67000	10000	94000	54000
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	2.8	6.3	8.5	5.6	0.14
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	2800	6300	8500	5600	140
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.4	3.1	4.3	2.8	0.068
Sulphide	mg/kg	1	MCERTS	3.3	5.2	360	19	20
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	590	240	4200	55	84
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	43	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	11	0.2	4.7	0.1	0.2
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	U/S	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	U/S	< 5.0	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460459	460460	460461	460462	460463
Sample Reference	WS202	WS202	WS202	WS204	WS204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.65	3.70	11.70	0.50	1.90
Date Sampled	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	1205
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	3.2	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	2.9	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.59	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.60	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.59	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.85	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.38	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	10	< 1.6	< 1.6	< 1.6	< 1.6
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**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	9000	15000	22000	9100	15000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	2.2	< 1.0	3.1	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	25	22	66	43
Barium (aqua regia extractable)	mg/kg	1	MCERTS	98	70	21	47	35
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.6	0.5	2.0	0.3	0.5
Boron (water soluble)	mg/kg	0.2	MCERTS	3.0	1.8	5.1	1.8	1.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	3.1	< 0.2	3.5	3.7
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	17	38	13	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	32	18	11	28	14
Iron (aqua regia extractable)	mg/kg	40	MCERTS	16000	14000	60000	18000	13000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	32	66	20	180	130
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	230	190	230	170	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.4
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.8	1.6	0.8	1.1	1.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	31	46	19	15
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	910	440	730	390	400
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	7.5
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	53	160	75	80	130
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	46	88	80	130

Calcium (aqua regia extractable)	mg/kg	20	NONE	230000	440000	43000	330000	450000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3100	3900	7200	3400	3500
Potassium (aqua regia extractable)	mg/kg	20	NONE	11000	8700	8000	1300	2000

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	460459	460460	460461	460462	460463
<b>Sample Reference</b>	WS202	WS202	WS202	WS204	WS204
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
<b>Depth (m)</b>	1.65	3.70	11.70	0.50	1.90
<b>Date Sampled</b>	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015
<b>Time Taken</b>	None Supplied	None Supplied	None Supplied	None Supplied	1205
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	4.8	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	6.5	2.2	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	11	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	30	11	24	< 8.0	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	52	14	24	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	3.9	< 1.0	2.5	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	13	< 2.0	3.4	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	19	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	22	14	13	< 10	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	58	14	19	< 10	< 10

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460459	460460	460461	460462	460463
Sample Reference	WS202	WS202	WS202	WS204	WS204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.65	3.70	11.70	0.50	1.90
Date Sampled	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	1205
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

VOCs					
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460459	460460	460461	460462	460463
Sample Reference	WS202	WS202	WS202	WS204	WS204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.65	3.70	11.70	0.50	1.90
Date Sampled	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	1205
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

SVOCs					
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	3.2	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	4.6	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	1.5	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	2.9	< 0.10
Anthracene	mg/kg	0.1	MCERTS	0.37	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	0.59	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.60	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.59	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.85	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.35	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.38	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.35	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464				460465		460466		460467		460468	
Sample Reference	WS204				WS204		TP701		TP701		TP702	
Sample Number	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	3.90				7.45		0.50		2.50		1.00	
Date Sampled	29/06/2015				29/06/2015		25/06/2015		25/06/2015		25/06/2015	
Time Taken	1225				1320		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	18	18	5.9	13	5.2				
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0				

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	12.2	12.1	8.0	7.8	7.9
pH								
Electrical Conductivity	µS/cm	10	NONE	26000	33000	410	330	350
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	95000	70000	690	780	750
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	19	15	0.077	0.22	0.10
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	19000	15000	77	220	100
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	9.6	7.5	0.039	0.11	0.051
Sulphide	mg/kg	1	MCERTS	26	1.0	< 1.0	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	790	20000	20	38	20
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	4.1	< 0.5	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	0.1	0.2	2.1	0.1	0.1
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	8.1	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	8.1	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number					460464	460465	460466	460467	460468
Sample Reference					WS204	WS204	TP701	TP701	TP702
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.90	7.45	0.50	2.50	1.00
Date Sampled					29/06/2015	29/06/2015	25/06/2015	25/06/2015	25/06/2015
Time Taken					1225	1320	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
<b>Speciated PAHs</b>									
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.33	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.30	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.24	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
<b>Total PAH</b>									
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
<b>Heavy Metals / Metalloids</b>									
Aluminium (aqua regia extractable)	mg/kg	30	NONE	9000	14000	9000	15000	1800	
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	54	19	8.6	7.5	5.5	
Barium (aqua regia extractable)	mg/kg	1	MCERTS	25	51	54	52	14	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.2	0.5	0.7	0.8	0.2	
Boron (water soluble)	mg/kg	0.2	MCERTS	2.0	2.9	1.3	0.4	0.2	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.0	3.2	< 0.2	< 0.2	< 0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	24	19	23	6.4	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	12	15	13	3.1	
Iron (aqua regia extractable)	mg/kg	40	MCERTS	15000	9700	21000	29000	6300	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	86	60	8.9	4.1	
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	140	170	240	360	69	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.4	4.6	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	10	15	19	5.5	
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	350	360	460	330	130	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	5.6	9.1	< 1.0	< 1.0	< 1.0	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	100	29	33	39	9.6	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	53	51	61	40	13	
Calcium (aqua regia extractable)	mg/kg	20	NONE	430000	330000	41000	4600	16000	
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2900	3500	2700	2800	690	
Potassium (aqua regia extractable)	mg/kg	20	NONE	38000	36000	2100	2200	590	



Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464	460465	460466	460467	460468			
Sample Reference	WS204	WS204	TP701	TP701	TP702			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	3.90	7.45	0.50	2.50	1.00			
Date Sampled	29/06/2015	29/06/2015	25/06/2015	25/06/2015	25/06/2015			
Time Taken	1225	1320	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	2.6	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	150	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	29	19	2200	14	11
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	29	19	2300	14	11
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	42	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	750	< 10	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	790	< 10	< 10

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464	460465	460466	460467	460468
Sample Reference	WS204	WS204	TP701	TP701	TP702
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.90	7.45	0.50	2.50	1.00
Date Sampled	29/06/2015	29/06/2015	25/06/2015	25/06/2015	25/06/2015
Time Taken	1225	1320	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
<b>VOCs</b>					
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464	460465	460466	460467	460468			
Sample Reference	WS204	WS204	TP701	TP701	TP702			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	3.90	7.45	0.50	2.50	1.00			
Date Sampled	29/06/2015	29/06/2015	25/06/2015	25/06/2015	25/06/2015			
Time Taken	1225	1320	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>SVOCs</b>								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.33	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.30	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.18	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.24	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460469	460470	460471	460472				
Sample Reference	TP702	TP702	BH203	BH203				
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied				
Depth (m)	1.50	2.00	2.00	4.00				
Date Sampled	25/06/2015	25/06/2015	25/06/2015	25/06/2015				
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	13	11	17	38	
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	
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**General Inorganics**

	pH Units	N/A	MCERTS	7.5	7.6	8.4	7.5	
pH								
Electrical Conductivity	µS/cm	10	NONE	700	180	2600	1300	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	1100	420	15000	9700	
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.53	0.15	2.3	2.6	
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	530	150	2300	2600	
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.26	0.077	1.2	1.3	
Sulphide	mg/kg	1	MCERTS	8.2	< 1.0	6.2	10	
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	13	31	53	67	
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	31	< 0.5	2.6	46	
Organic Matter	%	0.1	MCERTS	1.2	0.3	2.6	4.5	
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	5.4	< 2.0	< 2.0	
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	5.4	< 5.0	< 5.0	

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
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Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460469				460470				460471				460472			
Sample Reference	TP702				TP702				BH203				BH203			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	1.50				2.00				2.00				4.00			
Date Sampled	25/06/2015				25/06/2015				25/06/2015				25/06/2015			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status													
<b>Speciated PAHs</b>																
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.54	< 0.05									
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10									
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10									
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10									
Phenanthrene	mg/kg	0.1	MCERTS	0.21	< 0.10	1.1	< 0.10									
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.13	< 0.10									
Fluoranthene	mg/kg	0.1	MCERTS	0.71	< 0.10	0.96	< 0.10									
Pyrene	mg/kg	0.1	MCERTS	0.64	< 0.10	0.86	< 0.10									
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.36	< 0.10	0.46	< 0.10									
Chrysene	mg/kg	0.05	MCERTS	0.47	< 0.05	0.65	< 0.05									
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.31	< 0.10	0.40	< 0.10									
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.27	< 0.10	0.32	< 0.10									
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.28	< 0.10	0.30	< 0.10									
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10									
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10									
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05									
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05									
<b>Total PAH</b>																
Total WAC-17 PAHs	mg/kg	1.6	NONE	3.3	< 1.6	5.7	< 1.6									
<b>Heavy Metals / Metalloids</b>																
Aluminium (aqua regia extractable)	mg/kg	30	NONE	9600	9800	9400	15000									
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	1.0	6.3	< 1.0									
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.3	7.6	22	26									
Barium (aqua regia extractable)	mg/kg	1	MCERTS	45	49	130	29									
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7	0.8	0.8	0.8									
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	0.5	4.8	5.0									
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	< 0.2									
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0									
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	19	49	33									
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	11	60	14									
Iron (aqua regia extractable)	mg/kg	40	MCERTS	21000	21000	22000	45000									
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28	14	90	18									
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	280	460	280	99									
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3									
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.5	< 0.3	2.1	0.8									
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	15	29	19									
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	460	300	490	710									
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2	< 1.0	< 1.0	< 1.0									
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33	34	41	68									
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	36	100	47									
Calcium (aqua regia extractable)	mg/kg	20	NONE	54000	5500	240000	11000									
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3500	1900	2500	4700									
Potassium (aqua regia extractable)	mg/kg	20	NONE	3000	1700	2900	5800									

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460469	460470	460471	460472	
Sample Reference	TP702	TP702	BH203	BH203	
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)	1.50	2.00	2.00	4.00	
Date Sampled	25/06/2015	25/06/2015	25/06/2015	25/06/2015	
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
<b>Monoaromatics</b>					
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	14	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	41	9.1	110	18
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	41	11	130	18
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	11	< 10	50	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	11	< 10	51	< 10

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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460469	460470	460471	460472	
Sample Reference	TP702	TP702	BH203	BH203	
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)	1.50	2.00	2.00	4.00	
Date Sampled	25/06/2015	25/06/2015	25/06/2015	25/06/2015	
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
<b>VOCs</b>					
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0

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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				460469	460470	460471	460472	
Sample Reference				TP702	TP702	BH203	BH203	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				1.50	2.00	2.00	4.00	
Date Sampled				25/06/2015	25/06/2015	25/06/2015	25/06/2015	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>SVOCs</b>								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.54	< 0.05	
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	0.5	< 0.1	
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.2	< 0.2	
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Phenanthrene	mg/kg	0.1	MCERTS	0.21	< 0.10	1.1	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.13	< 0.10	
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Fluoranthene	mg/kg	0.1	MCERTS	0.71	< 0.10	0.96	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	0.64	< 0.10	0.86	< 0.10	
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.36	< 0.10	0.46	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	0.47	< 0.05	0.65	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.31	< 0.10	0.40	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.27	< 0.10	0.32	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.28	< 0.10	0.30	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	



**Analytical Report Number : 15-74513**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
460459	WS202	None Supplied	1.65	Black loam and sand with gravel.
460460	WS202	None Supplied	3.70	Beige clay and sand.
460461	WS202	None Supplied	11.70	Grey clay and sand.
460462	WS204	None Supplied	0.50	Beige sandy loam.
460463	WS204	None Supplied	1.90	Beige sandy loam.
460464	WS204	None Supplied	3.90	Beige sandy loam.
460465	WS204	None Supplied	7.45	Beige clay and sand.
460466	TP701	None Supplied	0.50	Light brown loam and sand with gravel and vegetation.
460467	TP701	None Supplied	2.50	Brown loam and clay with gravel.
460468	TP702	None Supplied	1.00	Light brown clay and sand with vegetation.
460469	TP702	None Supplied	1.50	Brown loam and clay with gravel.
460470	TP702	None Supplied	2.00	Brown sandy loam.
460471	BH203	None Supplied	2.00	Grey loam and clay with gravel and chalk.
460472	BH203	None Supplied	4.00	Brown loam and clay.

**Analytical Report Number : 15-74513**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74513**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Preliminary Report Number : 15-74513**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	29/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	30/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	Not complete
<b>Report Issue Number:</b>	0	<b>Report issued on:</b>	07/07/2015
<b>Samples Analysed:</b>	14 soil samples		

**Signed:** \_\_\_\_\_

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:** \_\_\_\_\_

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Preliminary reports provided at the request of the client should be considered as incomplete and have not been through the complete quality control procedure.

Results contained in preliminary reports may be subject to change and therefore should not be used as a basis for decision making, except at the risk of the client.

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460459	460460	460461	460462	460463			
Sample Reference	WS202	WS202	WS202	WS204	WS204			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	1.65	3.70	11.70	0.50	1.90			
Date Sampled	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	1205			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	10	25	40	28	26
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	11.4	12.1	10.5	10.9	11.5
pH								
Electrical Conductivity	µS/cm	10	NONE	4400	6800	3200	1300	1600
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	17000	67000	10000	94000	54000
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	2.8	6.3	8.5	5.6	0.14
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	2800	6300	8500	5600	140
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.4	3.1	4.3	2.8	0.068
Sulphide	mg/kg	1	MCERTS	3.3	5.2	360	19	20
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	590	240	4200	55	84
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	43	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	11	0.2	4.7	0.1	0.2
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	U/S	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	U/S	< 5.0	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Speciated PAHs**

	mg/kg	0.05	MCERTS	3.2	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene								
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	2.9	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.59	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.60	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.59	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.85	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.38	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	10	< 1.6	< 1.6	< 1.6	< 1.6

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Depth (m)	1.65	3.70	11.70	0.50	1.90
Date Sampled	25/06/2015	25/06/2015	26/06/2015	26/06/2015	29/06/2015
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	1205
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	9000	15000	22000	9100	15000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	2.2	< 1.0	3.1	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	25	22	66	43
Barium (aqua regia extractable)	mg/kg	1	MCERTS	98	70	21	47	35
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.6	0.5	2.0	0.3	0.5
Boron (water soluble)	mg/kg	0.2	MCERTS	3.0	1.8	5.1	1.8	1.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	3.1	< 0.2	3.5	3.7
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	17	38	13	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	32	18	11	28	14
Iron (aqua regia extractable)	mg/kg	40	MCERTS	16000	14000	60000	18000	13000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	32	66	20	180	130
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	230	190	230	170	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.4
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.8	1.6	0.8	1.1	1.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	31	46	19	15
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	910	440	730	390	400
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	7.5
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	53	160	75	80	130
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	46	88	80	130

Calcium (aqua regia extractable)	mg/kg	20	NONE	230000	440000	43000	330000	450000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3100	3900	7200	3400	3500
Potassium (aqua regia extractable)	mg/kg	20	NONE	11000	8700	8000	1300	2000

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	To follow	To follow	To follow	To follow	To follow
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow

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<b>Sample Number</b>	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
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<b>Time Taken</b>	None Supplied	None Supplied	None Supplied	None Supplied	1205
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

VOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	460459	460460	460461	460462	460463
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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<b>Time Taken</b>		None Supplied	None Supplied	None Supplied	None Supplied	1205
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

SVOCs								
Analytical Parameter	Units	Limit of detection	Accreditation Status	460459	460460	460461	460462	460463
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	3.2	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	4.6	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	1.5	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	2.9	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	0.59	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.60	< 0.10	< 0.10	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.59	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.85	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.38	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464		460465		460466		460467		460468	
Sample Reference	WS204		WS204		TP701		TP701		TP702	
Sample Number	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	3.90		7.45		0.50		2.50		1.00	
Date Sampled	29/06/2015		29/06/2015		25/06/2015		25/06/2015		25/06/2015	
Time Taken	1225		1320		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status							
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	18	18	5.9	13	5.2		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0		

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

**General Inorganics**

pH	pH Units	N/A	MCERTS	12.2	12.1	8.0	7.8	7.9
Electrical Conductivity	µS/cm	10	NONE	26000	33000	410	330	350
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	95000	70000	690	780	750
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	19	15	0.077	0.22	0.10
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	19000	15000	77	220	100
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	9.6	7.5	0.039	0.11	0.051
Sulphide	mg/kg	1	MCERTS	26	1.0	< 1.0	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	790	20000	20	38	20
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	4.1	< 0.5	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	0.1	0.2	2.1	0.1	0.1
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	8.1	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	8.1	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.33	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.30	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.18	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.24	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464				460465		460466		460467		460468	
Sample Reference	WS204				WS204		TP701		TP701		TP702	
Sample Number	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	3.90				7.45		0.50		2.50		1.00	
Date Sampled	29/06/2015				29/06/2015		25/06/2015		25/06/2015		25/06/2015	
Time Taken	1225				1320		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
<b>Heavy Metals / Metalloids</b>												
Aluminium (aqua regia extractable)	mg/kg	30	NONE	9000	14000	9000	15000	1800				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	2.1	< 1.0	< 1.0				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	54	19	8.6	7.5	5.5				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	25	51	54	52	14				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.2	0.5	0.7	0.8	0.2				
Boron (water soluble)	mg/kg	0.2	MCERTS	2.0	2.9	1.3	0.4	0.2				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.0	3.2	< 0.2	< 0.2	< 0.2				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	24	19	23	6.4				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	12	15	13	3.1				
Iron (aqua regia extractable)	mg/kg	40	MCERTS	15000	9700	21000	29000	6300				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	86	60	8.9	4.1				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	140	170	240	360	69				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.4	4.6	< 0.3	< 0.3	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	10	15	19	5.5				
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	350	360	460	330	130				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	5.6	9.1	< 1.0	< 1.0	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	100	29	33	39	9.6				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	53	51	61	40	13				
Calcium (aqua regia extractable)	mg/kg	20	NONE	430000	330000	41000	4600	16000				
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2900	3500	2700	2800	690				
Potassium (aqua regia extractable)	mg/kg	20	NONE	38000	36000	2100	2200	590				

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	To follow	To follow	To follow	To follow	To follow
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	To follow

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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464	460465	460466	460467	460468			
Sample Reference	WS204	WS204	TP701	TP701	TP702			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	3.90	7.45	0.50	2.50	1.00			
Date Sampled	29/06/2015	29/06/2015	25/06/2015	25/06/2015	25/06/2015			
Time Taken	1225	1320	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>VOCs</b>								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460464	460465	460466	460467	460468			
Sample Reference	WS204	WS204	TP701	TP701	TP702			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	3.90	7.45	0.50	2.50	1.00			
Date Sampled	29/06/2015	29/06/2015	25/06/2015	25/06/2015	25/06/2015			
Time Taken	1225	1320	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>SVOCs</b>								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.33	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.30	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.18	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.24	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460469				460470				460471				460472			
Sample Reference	TP702				TP702				BH203				BH203			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	1.50				2.00				2.00				4.00			
Date Sampled	25/06/2015				25/06/2015				25/06/2015				25/06/2015			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status													
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	13	11	17	38									
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0									

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	7.5	7.6	8.4	7.5
pH							
Electrical Conductivity	µS/cm	10	NONE	700	180	2600	1300
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	1100	420	15000	9700
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.53	0.15	2.3	2.6
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	530	150	2300	2600
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.26	0.077	1.2	1.3
Sulphide	mg/kg	1	MCERTS	8.2	< 1.0	6.2	10
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	13	31	53	67
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	31	< 0.5	2.6	46
Organic Matter	%	0.1	MCERTS	1.2	0.3	2.6	4.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	5.4	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	5.4	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

**Speciated PAHs**

	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.54	< 0.05
Naphthalene							
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	0.21	< 0.10	1.1	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.13	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.71	< 0.10	0.96	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.64	< 0.10	0.86	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.36	< 0.10	0.46	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.47	< 0.05	0.65	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.31	< 0.10	0.40	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.27	< 0.10	0.32	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.28	< 0.10	0.30	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	3.3	< 1.6	5.7	< 1.6

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	460469	460470	460471	460472
Sample Reference	TP702	TP702	BH203	BH203
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.50	2.00	2.00	4.00
Date Sampled	25/06/2015	25/06/2015	25/06/2015	25/06/2015
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
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Heavy Metals / Metalloids								
Aluminium (aqua regia extractable)	mg/kg	30	NONE	9600	9800	9400	15000	
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	1.0	6.3	< 1.0	
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.3	7.6	22	26	
Barium (aqua regia extractable)	mg/kg	1	MCERTS	45	49	130	29	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7	0.8	0.8	0.8	
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	0.5	4.8	5.0	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	< 0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	19	49	33	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	11	60	14	
Iron (aqua regia extractable)	mg/kg	40	MCERTS	21000	21000	22000	45000	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28	14	90	18	
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	280	460	280	99	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.5	< 0.3	2.1	0.8	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	15	29	19	
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	460	300	490	710	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2	< 1.0	< 1.0	< 1.0	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33	34	41	68	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	36	100	47	

Calcium (aqua regia extractable)	mg/kg	20	NONE	54000	5500	240000	11000	
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3500	1900	2500	4700	
Potassium (aqua regia extractable)	mg/kg	20	NONE	3000	1700	2900	5800	

#### Monoaromatics

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	

#### Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	To follow	To follow	To follow	To follow	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	To follow	To follow	To follow	To follow	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	To follow	To follow	To follow	To follow	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	To follow	To follow	To follow	To follow	
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	To follow	To follow	To follow	To follow	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	To follow	To follow	To follow	To follow	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	To follow	To follow	To follow	To follow	

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				460469	460470	460471	460472	
Sample Reference				TP702	TP702	BH203	BH203	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				1.50	2.00	2.00	4.00	
Date Sampled				25/06/2015	25/06/2015	25/06/2015	25/06/2015	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>VOCs</b>								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Tri bromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	

Analytical Report Number: 15-74513

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				460469	460470	460471	460472	
Sample Reference				TP702	TP702	BH203	BH203	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				1.50	2.00	2.00	4.00	
Date Sampled				25/06/2015	25/06/2015	25/06/2015	25/06/2015	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>SVOCs</b>								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.54	< 0.05	
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	0.5	< 0.1	
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.2	< 0.2	
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Phenanthrene	mg/kg	0.1	MCERTS	0.21	< 0.10	1.1	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.13	< 0.10	
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Fluoranthene	mg/kg	0.1	MCERTS	0.71	< 0.10	0.96	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	0.64	< 0.10	0.86	< 0.10	
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.36	< 0.10	0.46	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	0.47	< 0.05	0.65	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.31	< 0.10	0.40	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.27	< 0.10	0.32	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.28	< 0.10	0.30	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	



**Preliminary Report Number : 15-74513**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
460459	WS202	None Supplied	1.65	Black loam and sand with gravel.
460460	WS202	None Supplied	3.70	Beige clay and sand.
460461	WS202	None Supplied	11.70	Grey clay and sand.
460462	WS204	None Supplied	0.50	Beige sandy loam.
460463	WS204	None Supplied	1.90	Beige sandy loam.
460464	WS204	None Supplied	3.90	Beige sandy loam.
460465	WS204	None Supplied	7.45	Beige clay and sand.
460466	TP701	None Supplied	0.50	Light brown loam and sand with gravel and vegetation.
460467	TP701	None Supplied	2.50	Brown loam and clay with gravel.
460468	TP702	None Supplied	1.00	Light brown clay and sand with vegetation.
460469	TP702	None Supplied	1.50	Brown loam and clay with gravel.
460470	TP702	None Supplied	2.00	Brown sandy loam.
460471	BH203	None Supplied	2.00	Grey loam and clay with gravel and chalk.
460472	BH203	None Supplied	4.00	Brown loam and clay.

**Preliminary Report Number : 15-74513**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Preliminary Report Number : 15-74513**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**

i2 Job Number  
15-74513\_1 SD

## Sample Deviation Report



Sample ID	WS202	WS202	TP701	TP701	TP702	TP702	TP702	BH203	BH203
Other ID									
Sample Type	S	S	S	S	S	S	S	S	S
Job Number	15-74513	15-74513	15-74513	15-74513	15-74513	15-74513	15-74513	15-74513	15-74513
Sample Number	460459	460460	460466	460467	460468	460469	460470	460471	460472
Deviation Code	c	c	c	c	c	c	c	c	c
Test Name	Method no								
Sulphide in soil	L010-PL	c	c	c	c	c	c	c	c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature



**Emma Leivers**

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**Analytical Report Number : 15-74373**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 1 soil sample

**Samples received on:** 25/06/2015

**Samples instructed on:** 26/06/2015

**Analysis completed by:** 03/07/2015

**Report issued on:** 03/07/2015

**Signed:**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74373

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459455				
<b>Sample Reference</b>				WS203				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1700				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	28				
Total mass of sample received	kg	0.001	NONE	1.5				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	8.1				
Electrical Conductivity	µS/cm	10	NONE	1800				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	32000				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	5.0				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	5000				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.5				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	98				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.3				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74373

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459455							
<b>Sample Reference</b>	WS203							
<b>Sample Number</b>	None Supplied							
<b>Depth (m)</b>	1.00							
<b>Date Sampled</b>	23/06/2015							
<b>Time Taken</b>	1700							
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	15000				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.0				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.6				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	76				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.4				
Boron (water soluble)	mg/kg	0.2	MCERTS	3.2				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.7				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14				
Iron (aqua regia extractable)	mg/kg	40	MCERTS	13000				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	41				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	220				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.8				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31				
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	450				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	3.1				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	120				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36				

Calcium (aqua regia extractable)	mg/kg	20	NONE	320000				
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	4800				
Potassium (aqua regia extractable)	mg/kg	20	NONE	8100				

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

Analytical Report Number: 15-74373

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459455				
<b>Sample Reference</b>				WS203				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1700				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

VOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Chloromethane	µg/kg	1	ISO 17025	< 1.0				
Chloroethane	µg/kg	1	ISO 17025	< 1.0				
Bromomethane	µg/kg	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0				
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0				
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0				
Trichloromethane	µg/kg	1	MCERTS	< 1.0				
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0				
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0				
Benzene	µg/kg	1	MCERTS	< 1.0				
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0				
Trichloroethene	µg/kg	1	MCERTS	< 1.0				
Dibromomethane	µg/kg	1	MCERTS	< 1.0				
Bromodichloromethane	µg/kg	1	NONE	< 1.0				
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0				
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0				
Chlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-Xylene	µg/kg	1	MCERTS	< 1.0				
Styrene	µg/kg	1	MCERTS	< 1.0				
Tribromomethane	µg/kg	1	MCERTS	< 1.0				
o-Xylene	µg/kg	1	MCERTS	< 1.0				
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0				
Isopropylbenzene	µg/kg	1	NONE	< 1.0				
Bromobenzene	µg/kg	1	MCERTS	< 1.0				
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/kg	1	NONE	< 1.0				
4-Chlorotoluene	µg/kg	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0				
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0				



Analytical Report Number: 15-74373

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459455				
<b>Sample Reference</b>				WS203				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1700				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number : 15-74373**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459455	WS203	None Supplied	1.00	Light brown sandy clay with vegetation.

**Analytical Report Number : 15-74373**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74373**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74372**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	25/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	2 soil samples		

**Signature**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signature**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74372

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	459453	459454				
Sample Reference	BH502	BH502				
Sample Number	None Supplied	None Supplied				
Depth (m)	0.50	1.00				
Date Sampled	23/06/2015	23/06/2015				
Time Taken	1800	1805				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	13	14	
Total mass of sample received	kg	0.001	NONE	1.6	1.5	

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	

**General Inorganics**

pH	pH Units	N/A	MCERTS	9.4	11.2	
Electrical Conductivity	µS/cm	10	NONE	530	760	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	
Free Cyanide	mg/kg	1	NONE	< 1	< 1	
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	980	2000	
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.43	1.0	
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	430	1000	
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.21	0.50	
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	270	410	
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	
Organic Matter	%	0.1	MCERTS	0.2	0.2	
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	5.3	4.6	
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	5.3	< 5.0	

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	

**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	

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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459453	459454				
<b>Sample Reference</b>	BH502	BH502				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	0.50	1.00				
<b>Date Sampled</b>	23/06/2015	23/06/2015				
<b>Time Taken</b>	1800	1805				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	2600	2100		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.6	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	19	17		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.1	< 0.1		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.0	0.9		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.2	7.7		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.9	6.6		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	5200	3100		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	3.9	3.5		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	230	200		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.1	6.8		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	430	350		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	11	7.7		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	17	16		

Calcium (aqua regia extractable)	mg/kg	20	NONE	400000	410000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2300	2300		
Potassium (aqua regia extractable)	mg/kg	20	NONE	870	520		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	11	12		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	11	12		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	14	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	14	< 10		

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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459453	459454				
<b>Sample Reference</b>	BH502	BH502				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	0.50	1.00				
<b>Date Sampled</b>	23/06/2015	23/06/2015				
<b>Time Taken</b>	1800	1805				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

VOCs						
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	



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<b>Lab Sample Number</b>		459453	459454				
<b>Sample Reference</b>		BH502	BH502				
<b>Sample Number</b>		None Supplied	None Supplied				
<b>Depth (m)</b>		0.50	1.00				
<b>Date Sampled</b>		23/06/2015	23/06/2015				
<b>Time Taken</b>		1800	1805				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

SVOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2		
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459453	BH502	None Supplied	0.50	Light brown sandy clay.
459454	BH502	None Supplied	1.00	White chalk with gravel. **

\*\*Non MCerts Matrix

**Analytical Report Number : 15-74372**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74372**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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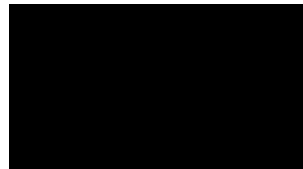
## **Analytical Report Number : 15-74371**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	25/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	3 soil samples		

**Signed:**

Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**



Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 15-74371

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	459450	459451	459452			
Sample Reference	WS102	WS102	WS102			
Sample Number	None Supplied	None Supplied	None Supplied			
Depth (m)	0.50	2.70	4.70			
Date Sampled	24/06/2015	24/06/2015	24/06/2015			
Time Taken	1710	1540	1635			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	16	15
Total mass of sample received	kg	0.001	NONE	1.1	1.6	1.2

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected

#### General Inorganics

pH	pH Units	N/A	MCERTS	10.7	11.9	12.3
Electrical Conductivity	µS/cm	10	NONE	1400	2500	9800
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	63000	54000	41000
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.3	1.6	7.6
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	4300	1600	7600
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.2	0.78	3.8
Sulphide	mg/kg	1	MCERTS	2.6	5.9	1.5
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	40	570	1800
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	1.7
Organic Matter	%	0.1	MCERTS	0.3	0.1	0.2
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	0.60	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.23	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.24	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.29	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	2.1	< 1.6	< 1.6

Analytical Report Number: 15-74371

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459450	459451	459452		
<b>Sample Reference</b>	WS102	WS102	WS102		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	0.50	2.70	4.70		
<b>Date Sampled</b>	24/06/2015	24/06/2015	24/06/2015		
<b>Time Taken</b>	1710	1540	1635		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	13000	17000	15000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.7	2.4	1.7		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	22	12		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	57	49	72		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.5	0.6	0.7		
Boron (water soluble)	mg/kg	0.2	MCERTS	2.8	2.4	3.6		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.7	3.7	4.3		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	17	21		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34	36	32		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	12000	7900	8300		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	140	130	130		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	170	140	160		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.6	1.2	0.7		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	10	12		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	380	320	360		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	4.9	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	23	25		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	120	120		

Calcium (aqua regia extractable)	mg/kg	20	NONE	310000	280000	300000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3400	2900	3800		
Potassium (aqua regia extractable)	mg/kg	20	NONE	3800	5500	19000		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10		

Analytical Report Number: 15-74371

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459450	459451	459452		
<b>Sample Reference</b>	WS102	WS102	WS102		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	0.50	2.70	4.70		
<b>Date Sampled</b>	24/06/2015	24/06/2015	24/06/2015		
<b>Time Taken</b>	1710	1540	1635		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

VOCs						
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-74371

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459450	459451	459452		
<b>Sample Reference</b>	WS102	WS102	WS102		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	0.50	2.70	4.70		
<b>Date Sampled</b>	24/06/2015	24/06/2015	24/06/2015		
<b>Time Taken</b>	1710	1540	1635		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs						
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	0.60	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.23	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.24	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.29	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05



**Analytical Report Number : 15-74371**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459450	WS102	None Supplied	0.50	Beige sand.
459451	WS102	None Supplied	2.70	Light brown sandy clay.
459452	WS102	None Supplied	4.70	Light brown sandy clay.

**Analytical Report Number : 15-74371**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74371**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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**Analytical Report Number : 15-74370**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 25/06/2015

**Your job number:** 30766

**Samples instructed on:** 26/06/2015

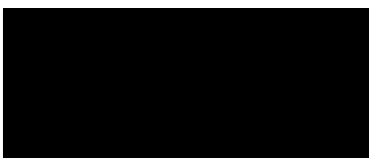
**Your order number:**

**Analysis completed by:** 03/07/2015

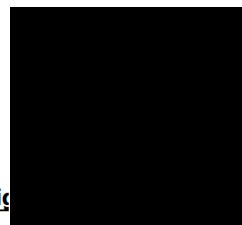
**Report Issue Number:** 1

**Report issued on:** 03/07/2015

**Samples Analysed:** 2 soil samples



Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**



**Sig**  
Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74370

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	459448	459449				
Sample Reference	TP302	TP302				
Sample Number	None Supplied	None Supplied				
Depth (m)	1.00	3.00				
Date Sampled	24/06/2015	24/06/2015				
Time Taken	1615	1655				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	9.5	15	
Total mass of sample received	kg	0.001	NONE	1.6	1.7	

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	

#### General Inorganics

pH	pH Units	N/A	MCERTS	10.9	11.7	
Electrical Conductivity	µS/cm	10	NONE	300	1100	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	
Free Cyanide	mg/kg	1	NONE	< 1	< 1	
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	2500	1200	
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.68	0.34	
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	680	340	
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.34	0.17	
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	11	16	
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	
Organic Matter	%	0.1	MCERTS	0.6	0.1	
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.10	< 0.05	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Phenanthrene	mg/kg	0.1	MCERTS	0.59	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Fluoranthene	mg/kg	0.1	MCERTS	1.2	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	0.64	< 0.10	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.52	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	0.70	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.1	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	1.0	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.68	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.70	< 0.05	
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	7.2	< 1.6	

Analytical Report Number: 15-74370

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459448	459449				
<b>Sample Reference</b>	TP302	TP302				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	1.00	3.00				
<b>Date Sampled</b>	24/06/2015	24/06/2015				
<b>Time Taken</b>	1615	1655				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	11000	790		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	< 1.0		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	44	11		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.5	< 0.1		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	0.4		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.3		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	2.4		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	6.2		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	21000	1300		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	30	2.9		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	340	250		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	5.4		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	610	640		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	5.1		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	16		

Calcium (aqua regia extractable)	mg/kg	20	NONE	220000	410000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	15000	1800		
Potassium (aqua regia extractable)	mg/kg	20	NONE	2000	420		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	9.6	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	60	14		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	70	14		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	45	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	45	< 10		

Analytical Report Number: 15-74370

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459448	459449				
<b>Sample Reference</b>	TP302	TP302				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	1.00	3.00				
<b>Date Sampled</b>	24/06/2015	24/06/2015				
<b>Time Taken</b>	1615	1655				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

VOCs						
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	



Analytical Report Number: 15-74370

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		459448	459449				
<b>Sample Reference</b>		TP302	TP302				
<b>Sample Number</b>		None Supplied	None Supplied				
<b>Depth (m)</b>		1.00	3.00				
<b>Date Sampled</b>		24/06/2015	24/06/2015				
<b>Time Taken</b>		1615	1655				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**SVOCs**

	mg/kg	0.1	NONE	< 0.1	< 0.1		
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2		
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Naphthalene	mg/kg	0.05	MCERTS	0.10	< 0.05		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Phenanthrene	mg/kg	0.1	MCERTS	0.59	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Fluoranthene	mg/kg	0.1	MCERTS	1.2	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	0.64	< 0.10		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.52	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	0.70	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.1	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	1.0	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.68	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.70	< 0.05		



**Analytical Report Number : 15-74370**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459448	TP302	None Supplied	1.00	Light brown sand with gravel and chalk.
459449	TP302	None Supplied	3.00	White chalk. **

\*\* Non MCERTS matrix.

**Analytical Report Number : 15-74370**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74370**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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**Analytical Report Number : 15-74369**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 25/06/2015

**Your job number:** 30766

**Samples instructed on:** 26/06/2015

**Your order number:**

**Analysis completed by:** 03/07/2015

**Report Issue Number:** 1

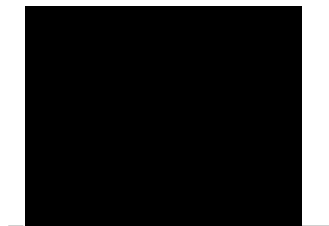
**Report issued on:** 03/07/2015

**Samples Analysed:** 2 soil samples

**Signature**



Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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MCERTS



Analytical Report Number: 15-74369

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				459446	459447		
Sample Reference				TP301	TP301		
Sample Number				None Supplied	None Supplied		
Depth (m)				0.50	2.00		
Date Sampled				24/06/2015	24/06/2015		
Time Taken				1200	1255		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	9.1	11		
Total mass of sample received	kg	0.001	NONE	1.7	1.3		

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected		
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**General Inorganics**

pH	pH Units	N/A	MCERTS	10.8	11.5		
Electrical Conductivity	µS/cm	10	NONE	260	1000		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1		
Complex Cyanide	mg/kg	1	NONE	< 1	< 1		
Free Cyanide	mg/kg	1	NONE	< 1	< 1		
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	1500	12000		
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.43	0.31		
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	430	310		
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.22	0.16		
Sulphide	mg/kg	1	MCERTS	< 1.0	1.7		
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	15	220		
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5		
Organic Matter	%	0.1	MCERTS	0.3	2.1		
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	7.5		
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	16000		
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	24		

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0		
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.42		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.66		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.42		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.19		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.27		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05		

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	2.0		
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MCERTS



Analytical Report Number: 15-74369

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459446		459447					
<b>Sample Reference</b>	TP301		TP301					
<b>Sample Number</b>	None Supplied		None Supplied					
<b>Depth (m)</b>	0.50		2.00					
<b>Date Sampled</b>	24/06/2015		24/06/2015					
<b>Time Taken</b>	1200		1255					
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	2900	9400			
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	5.8			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.0	16			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	24	260			
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	< 0.1	0.5			
Boron (water soluble)	mg/kg	0.2	MCERTS	2.6	3.1			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	6.1			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	9.0	23			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.9	1100			
Iron (aqua regia extractable)	mg/kg	40	MCERTS	5000	19000			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	150			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	210	270			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3	1.2			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	5.9	19			
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	440	430			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	11	32			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	32	530			

Calcium (aqua regia extractable)	mg/kg	20	NONE	450000	340000			
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2000	2400			
Potassium (aqua regia extractable)	mg/kg	20	NONE	900	2100			

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	27			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	130			
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	160			

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	15			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	75			
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	90			



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MCERTS



Analytical Report Number: 15-74369

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459446	459447			
<b>Sample Reference</b>				TP301	TP301			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				0.50	2.00			
<b>Date Sampled</b>				24/06/2015	24/06/2015			
<b>Time Taken</b>				1200	1255			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

VOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	459446	459447			
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0			





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MCERTS



Analytical Report Number: 15-74369

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459446	459447		
<b>Sample Reference</b>				TP301	TP301		
<b>Sample Number</b>				None Supplied	None Supplied		
<b>Depth (m)</b>				0.50	2.00		
<b>Date Sampled</b>				24/06/2015	24/06/2015		
<b>Time Taken</b>				1200	1255		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

SVOCs							
Analytical Parameter	Units	Limit of detection	Accreditation Status	459446	459447		
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2		
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.42		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.66		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.42		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.19		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.27		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		



**Analytical Report Number : 15-74369**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459446	TP301	None Supplied	0.50	White chalk with gravel. **
459447	TP301	None Supplied	2.00	Black loam and sand with gravel.

\*\* Non MCerts Matrix



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MCERTS



Analytical Report Number : 15-74369

Project / Site name: London Paramount Entertainment Resort

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

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**Analytical Report Number : 15-74369****Project / Site name: London Paramount Entertainment Resort****Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

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



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## **Analytical Report Number : 15-74368**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 25/06/2015

**Your job number:** 30766

**Samples instructed on:** 26/06/2015

**Your order number:**

**Analysis completed by:** 03/07/2015

**Report Issue Number:** 1

**Report issued on:** 03/07/2015

**Samples Analysed:** 1 soil sample

**Signed:**

Dr Claire  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74368

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459445							
<b>Sample Reference</b>	WS203							
<b>Sample Number</b>	None Supplied							
<b>Depth (m)</b>	2.25							
<b>Date Sampled</b>	25/06/2015							
<b>Time Taken</b>	1025							
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	14				
Total mass of sample received	kg	0.001	NONE	1.2				

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification	%	0.001	ISO 17025	0.080				

**General Inorganics**

pH	pH Units	N/A	MCERTS	12.7				
Electrical Conductivity	µS/cm	10	NONE	14000				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	56000				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	3.3				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	3300				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.6				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	1400				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	8.2				
Organic Matter	%	0.1	MCERTS	0.4				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74368

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459445							
<b>Sample Reference</b>	WS203							
<b>Sample Number</b>	None Supplied							
<b>Depth (m)</b>	2.25							
<b>Date Sampled</b>	25/06/2015							
<b>Time Taken</b>	1025							
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	14000				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.7				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.3				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	59				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.3				
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.8				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11				
Iron (aqua regia extractable)	mg/kg	40	MCERTS	9700				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	40				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	210				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	2.8				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24				
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	450				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	110				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	74				

Calcium (aqua regia extractable)	mg/kg	20	NONE	390000				
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	4200				
Potassium (aqua regia extractable)	mg/kg	20	NONE	13000				

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	14				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	220				
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	230				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

Analytical Report Number: 15-74368

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459445						
<b>Sample Reference</b>	WS203						
<b>Sample Number</b>	None Supplied						
<b>Depth (m)</b>	2.25						
<b>Date Sampled</b>	25/06/2015						
<b>Time Taken</b>	1025						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

VOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Chloromethane	µg/kg	1	ISO 17025	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0			



Analytical Report Number: 15-74368

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459445				
<b>Sample Reference</b>				WS203				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.25				
<b>Date Sampled</b>				25/06/2015				
<b>Time Taken</b>				1025				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**SVOCs**

Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number:** 15-74368  
**Project / Site name:** London Paramount Entertainment Resort  
**Your Order No:**

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## Certificate of Analysis - Asbestos Quantification

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### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

Any material greater than 16mm is considered as Bulk sample and reported separately, asbestos content (if any) is not included in the final Quantitative analysis. The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.  
Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
459445	WS203	2.25	91	Insulation Lagging & Loose Fibres	Chrysotile	0.080	0.080

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation



**Analytical Report Number : 15-74368**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459445	WS203	None Supplied	2.25	Beige sandy clay with gravel.

**Analytical Report Number : 15-74368**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

**Analytical Report Number : 15-74368**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is assayed by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74367**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	25/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	1 soil sample		

**Signature**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74367

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459441				
<b>Sample Reference</b>				WS202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				1705				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	14				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	10.4				
Electrical Conductivity	µS/cm	10	NONE	1300				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	63000				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	3.6				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	3600				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.8				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	49				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.2				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74367

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459441					
<b>Sample Reference</b>	WS202					
<b>Sample Number</b>	None Supplied					
<b>Depth (m)</b>	0.50					
<b>Date Sampled</b>	24/06/2015					
<b>Time Taken</b>	1705					
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	13000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	54		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.4		
Boron (water soluble)	mg/kg	0.2	MCERTS	2.4		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.3		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	9500		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	90		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	180		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.8		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	430		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	5.5		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	68		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	65		

Calcium (aqua regia extractable)	mg/kg	20	NONE	380000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3700		
Potassium (aqua regia extractable)	mg/kg	20	NONE	2100		



Analytical Report Number: 15-74367

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459441				
<b>Sample Reference</b>				WS202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				1705				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	8.6				
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

Analytical Report Number: 15-74367

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459441						
<b>Sample Reference</b>	WS202						
<b>Sample Number</b>	None Supplied						
<b>Depth (m)</b>	0.50						
<b>Date Sampled</b>	24/06/2015						
<b>Time Taken</b>	1705						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

VOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Chloromethane	µg/kg	1	ISO 17025	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0			

Analytical Report Number: 15-74367

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459441				
<b>Sample Reference</b>				WS202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				24/06/2015				
<b>Time Taken</b>				1705				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number : 15-74367**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459441	WS202	None Supplied	0.50	Beige sand with rubble.

**Analytical Report Number : 15-74367**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74367**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74366**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	25/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	1 soil sample		

**Sig**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74366

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459440				
<b>Sample Reference</b>				TP201				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				25/06/2015				
<b>Time Taken</b>				0950				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	10				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	10.9				
Electrical Conductivity	µS/cm	10	NONE	590				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	5600				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	2.0				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	2000				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.0				
Sulphide	mg/kg	1	MCERTS	2.4				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	16				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.9				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	0.56				
Acenaphthene	mg/kg	0.1	MCERTS	0.48				
Fluorene	mg/kg	0.1	MCERTS	0.46				
Phenanthrene	mg/kg	0.1	MCERTS	12				
Anthracene	mg/kg	0.1	MCERTS	1.4				
Fluoranthene	mg/kg	0.1	MCERTS	38				
Pyrene	mg/kg	0.1	MCERTS	22				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	11				
Chrysene	mg/kg	0.05	MCERTS	12				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	11				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	7.2				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	5.5				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	16				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	3.3				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	15				
Coronene	mg/kg	0.05	NONE	4.7				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	160				
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Analytical Report Number: 15-74366

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459440			
<b>Sample Reference</b>	TP201			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	1.00			
<b>Date Sampled</b>	25/06/2015			
<b>Time Taken</b>	0950			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	18000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	15
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	750
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30
Iron (aqua regia extractable)	mg/kg	40	MCERTS	25000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	770
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	240
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.0
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	610
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	74
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	450

Calcium (aqua regia extractable)	mg/kg	20	NONE	140000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3600
Potassium (aqua regia extractable)	mg/kg	20	NONE	9100

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	40
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	40

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	11
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	120
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	290
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	420

Analytical Report Number: 15-74366

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459440			
<b>Sample Reference</b>	TP201			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	1.00			
<b>Date Sampled</b>	25/06/2015			
<b>Time Taken</b>	0950			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Result
Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0

Analytical Report Number: 15-74366

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459440				
<b>Sample Reference</b>				TP201				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				25/06/2015				
<b>Time Taken</b>				0950				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	0.56				
Acenaphthene	mg/kg	0.1	MCERTS	0.48				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	0.7				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	0.46				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	12				
Anthracene	mg/kg	0.1	MCERTS	1.4				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	1.1				
Fluoranthene	mg/kg	0.1	MCERTS	38				
Pyrene	mg/kg	0.1	MCERTS	22				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	11				
Chrysene	mg/kg	0.05	MCERTS	12				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	11				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	7.2				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	5.5				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	16				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	3.3				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	15				



**Analytical Report Number : 15-74366**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459440	TP201	None Supplied	1.00	Light brown sand with rubble and brick.

**Analytical Report Number : 15-74366**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74366**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74336**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	24/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	1 soil sample		

**Signature**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signature**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74336

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459235				
<b>Sample Reference</b>				BH501				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.70				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1550				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	11				
Total mass of sample received	kg	0.001	NONE	1.7				

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification	%	0.001	ISO 17025	< 0.001				

#### General Inorganics

pH	pH Units	N/A	MCERTS	10.5				
Electrical Conductivity	µS/cm	10	NONE	530				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	2500				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.89				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	890				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.44				
Sulphide	mg/kg	1	MCERTS	1.2				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	340				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	13				
Organic Matter	%	0.1	MCERTS	2.6				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0				
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#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	1.9				
Anthracene	mg/kg	0.1	MCERTS	0.63				
Fluoranthene	mg/kg	0.1	MCERTS	2.2				
Pyrene	mg/kg	0.1	MCERTS	1.9				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.1				
Chrysene	mg/kg	0.05	MCERTS	0.92				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.1				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.48				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.72				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.39				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.41				
Coronene	mg/kg	0.05	NONE	< 0.05				

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	12				
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Analytical Report Number: 15-74336

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459235						
<b>Sample Reference</b>	BH501						
<b>Sample Number</b>	None Supplied						
<b>Depth (m)</b>	7.70						
<b>Date Sampled</b>	23/06/2015						
<b>Time Taken</b>	1550						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	5800			
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.7			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	86			
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7			
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.8			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	80			
Iron (aqua regia extractable)	mg/kg	40	MCERTS	16000			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	45			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	260			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.9			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18			
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	500			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	93			

Calcium (aqua regia extractable)	mg/kg	20	NONE	310000			
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2700			
Potassium (aqua regia extractable)	mg/kg	20	NONE	1300			

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	1.7			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	3.4			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	12			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	75			
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	91			

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	4.2			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	15			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	70			
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	89			

Analytical Report Number: 15-74336

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459235				
<b>Sample Reference</b>				BH501				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.70				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1550				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

VOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Chloromethane	µg/kg	1	ISO 17025	< 1.0				
Chloroethane	µg/kg	1	ISO 17025	< 1.0				
Bromomethane	µg/kg	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0				
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0				
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0				
Trichloromethane	µg/kg	1	MCERTS	< 1.0				
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0				
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0				
Benzene	µg/kg	1	MCERTS	< 1.0				
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0				
Trichloroethene	µg/kg	1	MCERTS	< 1.0				
Dibromomethane	µg/kg	1	MCERTS	< 1.0				
Bromodichloromethane	µg/kg	1	NONE	< 1.0				
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0				
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0				
Chlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-Xylene	µg/kg	1	MCERTS	< 1.0				
Styrene	µg/kg	1	MCERTS	< 1.0				
Tribromomethane	µg/kg	1	MCERTS	< 1.0				
o-Xylene	µg/kg	1	MCERTS	< 1.0				
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0				
Isopropylbenzene	µg/kg	1	NONE	< 1.0				
Bromobenzene	µg/kg	1	MCERTS	< 1.0				
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/kg	1	NONE	< 1.0				
4-Chlorotoluene	µg/kg	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0				
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0				

Analytical Report Number: 15-74336

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459235				
<b>Sample Reference</b>				BH501				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				7.70				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1550				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Value				
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	1.9				
Anthracene	mg/kg	0.1	MCERTS	0.63				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	2.2				
Pyrene	mg/kg	0.1	MCERTS	1.9				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.1				
Chrysene	mg/kg	0.05	MCERTS	0.92				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.1				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.48				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.72				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.39				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.41				



**Analytical Report Number:** 15-74336  
**Project / Site name:** London Paramount Entertainment Resort  
**Your Order No:**

## Certificate of Analysis - Asbestos Quantification

### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

Any material greater than 16mm is considered as Bulk sample and reported separately, asbestos content (if any) is not included in the final Quantitative analysis. The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.  
Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
459235	BH501	7.70	101	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditator



**Analytical Report Number : 15-74336**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459235	BH501	None Supplied	7.70	Grey loam and sand with gravel.

**Analytical Report Number : 15-74336**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

**Analytical Report Number : 15-74336**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is assayed by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



**Emma Leivers**

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## **Analytical Report Number : 15-74331**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	24/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	2 soil samples		

**Sig**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Rexona Karimian  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74331

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	459219	459220				
Sample Reference	WS101	WS101				
Sample Number	None Supplied	None Supplied				
Depth (m)	1.00	3.70				
Date Sampled	23/06/2015	23/06/2015				
Time Taken	1630	1535				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	18	14	
Total mass of sample received	kg	0.001	NONE	1.6	1.5	

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	
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#### General Inorganics

pH	pH Units	N/A	MCERTS	8.8	12.4	
Electrical Conductivity	µS/cm	10	NONE	2200	27000	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	
Free Cyanide	mg/kg	1	NONE	< 1	< 1	
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	46000	86000	
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.8	15	
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	4800	15000	
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.4	7.5	
Sulphide	mg/kg	1	MCERTS	1.7	1.4	
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	93	3700	
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	4.4	
Organic Matter	%	0.1	MCERTS	0.6	0.3	
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	220	
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	
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#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	
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Analytical Report Number: 15-74331

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		459219	459220				
<b>Sample Reference</b>		WS101	WS101				
<b>Sample Number</b>		None Supplied	None Supplied				
<b>Depth (m)</b>		1.00	3.70				
<b>Date Sampled</b>		23/06/2015	23/06/2015				
<b>Time Taken</b>		1630	1535				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	16000	19000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.0	3.3		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	25	35		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	88	81		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.8	0.7		
Boron (water soluble)	mg/kg	0.2	MCERTS	11	4.9		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	6.9	8.3		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	28		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	65	100		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	15000	15000		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	450	430		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	190	190		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.5	2.5		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	12		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	400	390		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	6.5	5.5		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	27		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290	340		

Calcium (aqua regia extractable)	mg/kg	20	NONE	360000	310000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3900	3400		
Potassium (aqua regia extractable)	mg/kg	20	NONE	8000	53000		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	30	< 8.0		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	30	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10		



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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459219	459220			
<b>Sample Reference</b>				WS101	WS101			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				1.00	3.70			
<b>Date Sampled</b>				23/06/2015	23/06/2015			
<b>Time Taken</b>				1630	1535			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

VOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	459219	459220			
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0			

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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	459219	459220					
Sample Reference	WS101	WS101					
Sample Number	None Supplied	None Supplied					
Depth (m)	1.00	3.70					
Date Sampled	23/06/2015	23/06/2015					
Time Taken	1630	1535					
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				

SVOCs							
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2		
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		



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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459219	WS101	None Supplied	1.00	Grey sandy loam with vegetation.
459220	WS101	None Supplied	3.70	Grey clay and sand.

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**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74331**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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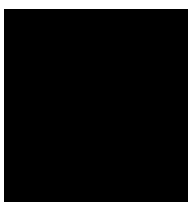
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## **Analytical Report Number : 15-74330**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	24/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	26/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	03/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	03/07/2015
<b>Samples Analysed:</b>	1 soil sample		



Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:** 

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 15-74330

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459218				
<b>Sample Reference</b>				BH203				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1650				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	9.2				
Total mass of sample received	kg	0.001	NONE	1.4				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	8.1				
Electrical Conductivity	µS/cm	10	NONE	1700				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	16000				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	3.5				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	3500				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	1.7				
Sulphide	mg/kg	1	MCERTS	4.5				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	41				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	1.5				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	0.14				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	0.82				
Anthracene	mg/kg	0.1	MCERTS	0.10				
Fluoranthene	mg/kg	0.1	MCERTS	1.2				
Pyrene	mg/kg	0.1	MCERTS	1.0				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.75				
Chrysene	mg/kg	0.05	MCERTS	0.41				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.60				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.42				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.53				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.25				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.30				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	6.5				
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Analytical Report Number: 15-74330

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459218							
<b>Sample Reference</b>	BH203							
<b>Sample Number</b>	None Supplied							
<b>Depth (m)</b>	0.50							
<b>Date Sampled</b>	23/06/2015							
<b>Time Taken</b>	1650							
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	9500				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.2				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.8				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	82				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.6				
Boron (water soluble)	mg/kg	0.2	MCERTS	2.7				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	59				
Iron (aqua regia extractable)	mg/kg	40	MCERTS	19000				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	52				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	360				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.9				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17				
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	990				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100				

Calcium (aqua regia extractable)	mg/kg	20	NONE	340000				
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3100				
Potassium (aqua regia extractable)	mg/kg	20	NONE	2800				

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	3.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	32				
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	35				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	16				
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	16				



Analytical Report Number: 15-74330

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	459218			
<b>Sample Reference</b>	BH203			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	0.50			
<b>Date Sampled</b>	23/06/2015			
<b>Time Taken</b>	1650			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0

Analytical Report Number: 15-74330

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				459218				
<b>Sample Reference</b>				BH203				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				23/06/2015				
<b>Time Taken</b>				1650				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Result				
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	0.14				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	0.82				
Anthracene	mg/kg	0.1	MCERTS	0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	1.2				
Pyrene	mg/kg	0.1	MCERTS	1.0				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.75				
Chrysene	mg/kg	0.05	MCERTS	0.41				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.60				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.42				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.53				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.25				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.30				



**Analytical Report Number : 15-74330**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
459218	BH203	None Supplied	0.50	Light grey loam and sand with gravel.

**Analytical Report Number : 15-74330**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74330**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



**Emma Leivers**

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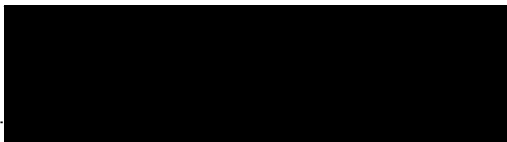
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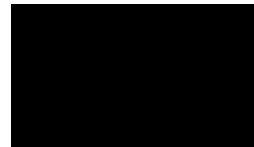
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## **Analytical Report Number : 15-74185**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	23/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	24/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	01/07/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	01/07/2015
<b>Samples Analysed:</b>	2 soil samples		



Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**



**Signed.**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.





Analytical Report Number: 15-74185

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458272	458273			
<b>Sample Reference</b>				BH501	BH501			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				3.00	5.50			
<b>Date Sampled</b>				22/06/2015	22/06/2015			
<b>Time Taken</b>				1415	1545			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	22	16			
Total mass of sample received	kg	0.001	NONE	2.0	2.0			

<b>Asbestos in Soil</b>	<b>Type</b>	<b>N/A</b>	<b>ISO 17025</b>	<b>Not-detected</b>	<b>Not-detected</b>			
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**General Inorganics**

pH	pH Units	N/A	NONE	11.4	11.1			
Electrical Conductivity	µS/cm	10	NONE	1200	950			
Total Cyanide	mg/kg	1	NONE	< 1	< 1			
Complex Cyanide	mg/kg	1	NONE	< 1	< 1			
Free Cyanide	mg/kg	1	NONE	< 1	< 1			
Total Sulphate as SO <sub>4</sub>	mg/kg	50	NONE	2000	1600			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	NONE	1.3	0.80			
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	NONE	1300	800			
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	NONE	0.67	0.40			
Sulphide	mg/kg	1	NONE	< 1.0	< 1.0			
Water Soluble Chloride (2:1)	mg/kg	1	NONE	700	820			
Ammoniacal Nitrogen as N	mg/kg	0.5	NONE	0.8	4.2			
Organic Matter	%	0.1	NONE	0.4	< 0.1			
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0			
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20			
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0			

**Total Phenols**

<b>Total Phenols (monohydric)</b>	<b>mg/kg</b>	<b>1</b>	<b>NONE</b>	<b>&lt; 1.0</b>	<b>&lt; 1.0</b>			
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Acenaphthene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Fluorene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Phenanthrene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Anthracene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Fluoranthene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Pyrene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Chrysene	mg/kg	0.05	NONE	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	< 0.05			
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05			

**Total PAH**

<b>Total WAC-17 PAHs</b>	<b>mg/kg</b>	<b>1.6</b>	<b>NONE</b>	<b>&lt; 1.6</b>	<b>&lt; 1.6</b>			
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Analytical Report Number: 15-74185

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	458272	458273				
<b>Sample Reference</b>	BH501	BH501				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	3.00	5.50				
<b>Date Sampled</b>	22/06/2015	22/06/2015				
<b>Time Taken</b>	1415	1545				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	1400	1500		
Antimony (aqua regia extractable)	mg/kg	1	NONE	< 1.0	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	NONE	2.2	< 1.0		
Barium (aqua regia extractable)	mg/kg	1	NONE	29	31		
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	< 0.1	< 0.1		
Boron (water soluble)	mg/kg	0.2	NONE	0.7	0.9		
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	0.3	< 0.2		
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	NONE	11	9.2		
Copper (aqua regia extractable)	mg/kg	1	NONE	3.5	5.9		
Iron (aqua regia extractable)	mg/kg	40	NONE	1400	1700		
Lead (aqua regia extractable)	mg/kg	1	NONE	2.9	4.6		
Manganese (aqua regia extractable)	mg/kg	1	NONE	200	210		
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	NONE	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	NONE	8.4	7.1		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	370	380		
Selenium (aqua regia extractable)	mg/kg	1	NONE	1.6	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	NONE	5.8	6.0		
Zinc (aqua regia extractable)	mg/kg	1	NONE	16	19		

Calcium (aqua regia extractable)	mg/kg	20	NONE	430000	460000		
Magnesium (aqua regia extractable)	mg/kg	20	NONE	2300	2100		
Potassium (aqua regia extractable)	mg/kg	20	NONE	330	370		

**Monoaromatics**

Benzene	µg/kg	1	NONE	< 1.0	< 1.0		
Toluene	µg/kg	1	NONE	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	NONE	< 1.0	< 1.0		
o-xylene	µg/kg	1	NONE	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	NONE	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	NONE	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	< 8.0	< 8.0		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	NONE	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	NONE	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	NONE	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	< 10	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	NONE	< 10	< 10		



Analytical Report Number: 15-74185

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		458272	458273				
<b>Sample Reference</b>		BH501	BH501				
<b>Sample Number</b>		None Supplied	None Supplied				
<b>Depth (m)</b>		3.00	5.50				
<b>Date Sampled</b>		22/06/2015	22/06/2015				
<b>Time Taken</b>		1415	1545				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

VOCs							
Chloromethane	µg/kg	1	NONE	< 1.0	< 1.0		
Chloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
Bromomethane	µg/kg	1	NONE	< 1.0	< 1.0		
Vinyl Chloride	µg/kg	1	NONE	< 1.0	< 1.0		
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	< 1.0		
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	< 1.0	< 1.0		
Cis-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	< 1.0		
1,1-Dichloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0		
Trichloromethane	µg/kg	1	NONE	< 1.0	< 1.0		
1,1,1-Trichloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
1,2-Dichloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0		
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0		
Benzene	µg/kg	1	NONE	< 1.0	< 1.0		
Tetrachloromethane	µg/kg	1	NONE	< 1.0	< 1.0		
1,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0		
Trichloroethene	µg/kg	1	NONE	< 1.0	< 1.0		
Dibromomethane	µg/kg	1	NONE	< 1.0	< 1.0		
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0		
Cis-1,3-dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0		
Trans-1,3-dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0		
Toluene	µg/kg	1	NONE	< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
1,3-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0		
Dibromochloromethane	µg/kg	1	NONE	< 1.0	< 1.0		
Tetrachloroethene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2-Dibromoethane	µg/kg	1	NONE	< 1.0	< 1.0		
Chlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
p & m-Xylene	µg/kg	1	NONE	< 1.0	< 1.0		
Styrene	µg/kg	1	NONE	< 1.0	< 1.0		
Tribromomethane	µg/kg	1	NONE	< 1.0	< 1.0		
o-Xylene	µg/kg	1	NONE	< 1.0	< 1.0		
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
Bromobenzene	µg/kg	1	NONE	< 1.0	< 1.0		
n-Propylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0		
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0		
1,3,5-Trimethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2,4-Trimethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,3-Dichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		
p-Isopropyltoluene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2-Dichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,4-Dichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	< 1.0	< 1.0		
1,2,4-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		



Analytical Report Number: 15-74185

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		458272	458273				
<b>Sample Reference</b>		BH501	BH501				
<b>Sample Number</b>		None Supplied	None Supplied				
<b>Depth (m)</b>		3.00	5.50				
<b>Date Sampled</b>		22/06/2015	22/06/2015				
<b>Time Taken</b>		1415	1545				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

SVOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	458272	458273		
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2		
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2		
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1		
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3		
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05		
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3		
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2		
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3		
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3		
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3		
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3		
Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05		
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3		
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2		
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1		
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1		
Acenaphthylene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	NONE	< 0.10	< 0.10		
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2		
Dibenzofuran	mg/kg	0.2	NONE	< 0.2	< 0.2		
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3		
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2		
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2		
Fluorene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3		
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2		
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3		
Phenanthrene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Anthracene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Carbazole	mg/kg	0.3	NONE	< 0.3	< 0.3		
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2		
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3		
Fluoranthene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Pyrene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3		
Benzo(a)anthracene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	NONE	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	NONE	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	< 0.05		



**Analytical Report Number : 15-74185**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
458272	BH501	None Supplied	3.00	Beige chalk. **
458273	BH501	None Supplied	5.50	Beige chalk. **

\*\* Non MCerts Matrix



**Analytical Report Number : 15-74185**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE



Analytical Report Number : 15-74185

Project / Site name: London Paramount Entertainment Resort

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.



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## **Analytical Report Number : 15-74184**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 19/06/2015

**Your job number:** 30766

**Samples instructed on:** 24/06/2015

**Your order number:**

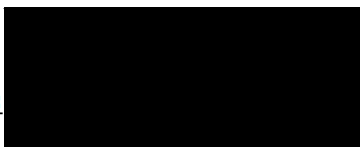
**Analysis completed by:** 30/06/2015

**Report Issue Number:** 1

**Report issued on:** 30/06/2015

**Samples Analysed:** 1 soil sample

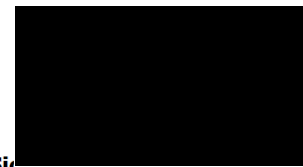
**Signed:**



Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 15-74184

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458271				
<b>Sample Reference</b>				BH501				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				17/06/2015				
<b>Time Taken</b>				1450				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	16				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	8.4				
Electrical Conductivity	µS/cm	10	NONE	220				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	810				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.12				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	120				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.062				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	17				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.4				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74184

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458271			
Sample Reference	BH501			
Sample Number	None Supplied			
Depth (m)	0.50			
Date Sampled	17/06/2015			
Time Taken	1450			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	3600
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.3
Barium (aqua regia extractable)	mg/kg	1	MCERTS	30
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.2
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.8
Iron (aqua regia extractable)	mg/kg	40	MCERTS	6500
Lead (aqua regia extractable)	mg/kg	1	MCERTS	6.7
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	250
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.0
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	410
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	13
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	32

Calcium (aqua regia extractable)	mg/kg	20	NONE	340000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2400
Potassium (aqua regia extractable)	mg/kg	20	NONE	1000

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	15
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	15

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	17
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	17

Analytical Report Number: 15-74184

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	458271						
<b>Sample Reference</b>	BH501						
<b>Sample Number</b>	None Supplied						
<b>Depth (m)</b>	0.50						
<b>Date Sampled</b>	17/06/2015						
<b>Time Taken</b>	1450						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

VOCs							
Chloromethane	µg/kg	1	ISO 17025	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0			

Analytical Report Number: 15-74184

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	458271			
<b>Sample Reference</b>	BH501			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	0.50			
<b>Date Sampled</b>	17/06/2015			
<b>Time Taken</b>	1450			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

SVOCs				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Result
Aniline	mg/kg	0.1	NONE	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05



**Analytical Report Number : 15-74184**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
458271	BH501	None Supplied	0.50	Beige sandy loam with gravel and chalk.

**Analytical Report Number : 15-74184**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74184**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**

i2 Job Number  
15-74184\_1 SD

## Sample Deviation Report



<b>Sample ID</b>		<b>BH501</b>
<b>Other ID</b>		
<b>Sample Type</b>		<b>S</b>
<b>Job Number</b>		<b>15-74184</b>
<b>Sample Number</b>		<b>458271</b>
<b>Deviation Code</b>		<b>c</b>
<b>Test Name</b>	<b>Method no</b>	
Complex cyanide in soil	L080-PL	c
Free cyanide in soil	L080-PL	c
Monohydric phenols in soil	L080-PL	c
Semi-volatile organic compounds in soil	L064-PL	c
Speciated WAC-17 PAHs in soil	L064-PL	c
Sulphide in soil	L010-PL	c
Total cyanide in soil	L080-PL	c
Volatile organic compounds in soil	L073S-PL	c
BTEX and MTBE in soil	L073S-PL	c
Speciated WAC-17 PAHs in soil	L064-PL	c
TPHCWG (Soil)	L076-PL	c
Volatile organic compounds in soil	L073S-PL	c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature





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**Analytical Report Number : 15-74181**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 5 soil samples - 1 water sample

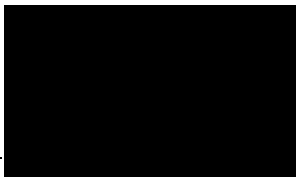
**Samples received on:** 19/06/2015

**Samples instructed on:** 24/06/2015

**Analysis completed by:** 03/07/2015

**Report issued on:** 03/07/2015

**Signed:**



Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260			
Sample Reference	BH101	BH101	BH101	BH101	BH101			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	0.50	1.50	2.00	4.00	5.00			
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015			
Time Taken	0855	1045	1100	1155	1215			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	22	31	38	38	36
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Loose fibres	Chrysotile- Loose fibres; Crocidolite- loose fibres	Chrysotile- Loose fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	6.6	10.4	8.8	8.1	8.2
Electrical Conductivity	µS/cm	10	NONE	2500	8800	8100	6900	5100
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	17000	15000	9200	2000	1300
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.1	10	9.3	3.1	0.52
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	4100	10000	9300	3100	520
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.0	5.0	4.6	1.6	0.26
Sulphide	mg/kg	1	MCERTS	< 1.0	86	37	65	68
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	390	7000	7000	5100	4000
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	270	160	26
Organic Matter	%	0.1	MCERTS	0.9	3.4	5.0	3.7	3.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.22	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.2	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.18	0.37	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.38	1.2	2.6	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.30	1.0	2.1	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.22	0.74	1.5	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.17	0.66	1.4	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.25	1.2	2.3	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.1	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.17	0.97	2.0	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.64	1.4	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.26	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.78	1.6	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	8.4	19	< 1.6	< 1.6
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Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260
Sample Reference	BH101	BH101	BH101	BH101	BH101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	2.00	4.00	5.00
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015
Time Taken	0855	1045	1100	1155	1215
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**Heavy Metals / Metalloids**

				14000	17000	18000	28000	25000
Aluminium (aqua regia extractable)	mg/kg	30	NONE					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	18	35	21	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	100	170	43	39
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	1.0	1.1	1.5	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	4.5	7.6	11	9.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.0	4.0	7.0	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	70	110	54	38
Copper (aqua regia extractable)	mg/kg	1	MCERTS	210	95	160	21	12
Iron (aqua regia extractable)	mg/kg	40	MCERTS	37000	30000	36000	56000	42000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	120	190	32	21
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	300	270	310	980	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	2.0	4.5	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	3.5	1.8	3.5	1.6	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	37	30	42	39	26
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	410	2000	3800	900	640
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	4.4	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	48	49	62	84	64
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	310	280	480	110	74

Calcium (aqua regia extractable)	mg/kg	20	NONE	38000	88000	79000	19000	31000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3100	6600	6700	11000	8300
Potassium (aqua regia extractable)	mg/kg	20	NONE	6100	23000	27000	10000	5700

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	6.1	13	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	8.2	42	98	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	53	160	380	< 8.0	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	61	210	490	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	4.0	3.0	6.7	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	31	71	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	28	170	370	< 10	20
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	32	200	450	< 10	20



Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260
Sample Reference	BH101	BH101	BH101	BH101	BH101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	2.00	4.00	5.00
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015
Time Taken	0855	1045	1100	1155	1215
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260
Sample Reference	BH101	BH101	BH101	BH101	BH101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	2.00	4.00	5.00
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015
Time Taken	0855	1045	1100	1155	1215
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

SVOCs				458256	458257	458258	458259	458260
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.22	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.2	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.18	0.37	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	0.38	1.2	2.6	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.30	1.0	2.1	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.22	0.74	1.5	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.17	0.66	1.4	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.25	1.2	2.3	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.1	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.17	0.97	2.0	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.64	1.4	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.26	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.78	1.6	< 0.05	< 0.05



Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**General Inorganics**

pH	pH Units	N/A	ISO 17025	8.3				
Electrical Conductivity	µS/cm	10	NONE	23000				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Complex Cyanide	µg/l	10	NONE	< 10				
Free Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	1820000				
Sulphide	µg/l	5	NONE	< 5.0				
Chloride	mg/l	0.15	ISO 17025	20000				
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	100000				
Nitrate as N	mg/l	0.01	ISO 17025	0.34				
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	1.50				
Nitrite as N	µg/l	1	ISO 17025	4.0				
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	13				
Chemical Oxygen Demand (Settled)	mg/l	2	ISO 17025	300				
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	350				
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.3				

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	650				
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Coronene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2				
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2				



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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0190				
Antimony (dissolved)	µg/l	0.4	ISO 17025	6.8				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	24.7				
Barium (dissolved)	µg/l	0.06	ISO 17025	250				
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Boron (dissolved)	µg/l	10	ISO 17025	1300				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.0				
Copper (dissolved)	µg/l	0.5	ISO 17025	6.1				
Iron (dissolved)	mg/l	0.004	ISO 17025	0.41				
Lead (dissolved)	µg/l	0.2	ISO 17025	2.7				
Manganese (dissolved)	µg/l	0.05	ISO 17025	84				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	51				
Nickel (dissolved)	µg/l	0.5	ISO 17025	9.4				
Selenium (dissolved)	µg/l	0.6	ISO 17025	210				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	19				
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.1				

Calcium (dissolved)	mg/l	0.012	ISO 17025	270				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	610				
Potassium (dissolved)	mg/l	0.025	ISO 17025	4700				
Phosphorus (total)	mg/l	0.05	ISO 17025	86				
Phosphorus (total)	µg/l	20	ISO 17025	86000				

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10				



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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0				
Chloroethane	µg/l	1	ISO 17025	< 1.0				
Bromomethane	µg/l	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/l	1	NONE	< 1.0				
Trichlorofluoromethane	µg/l	1	NONE	< 1.0				
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0				
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloromethane	µg/l	1	ISO 17025	< 1.0				
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
Benzene	µg/l	1	ISO 17025	< 1.0				
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0				
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloroethene	µg/l	1	ISO 17025	< 1.0				
Dibromomethane	µg/l	1	ISO 17025	< 1.0				
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0				
Chlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-Xylene	µg/l	1	ISO 17025	< 1.0				
Styrene	µg/l	1	ISO 17025	< 1.0				
Tribromomethane	µg/l	1	ISO 17025	< 1.0				
o-Xylene	µg/l	1	ISO 17025	< 1.0				
1,1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0				
Bromobenzene	µg/l	1	ISO 17025	< 1.0				
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0				
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				





Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**SVOCs**

Aniline	µg/l	0.05	NONE	< 0.05				
Phenol	µg/l	0.05	NONE	< 0.05				
2-Chlorophenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05				
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05				
2-Methylphenol	µg/l	0.05	NONE	< 0.05				
Hexachloroethane	µg/l	0.05	NONE	< 0.05				
Nitrobenzene	µg/l	0.05	NONE	< 0.05				
4-Methylphenol	µg/l	0.05	NONE	< 0.05				
Isophorone	µg/l	0.05	NONE	< 0.05				
2-Nitrophenol	µg/l	0.05	NONE	< 0.05				
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05				
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05				
4-Chloroaniline	µg/l	0.05	NONE	< 0.05				
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05				
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05				
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05				
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05				
Dimethylphthalate	µg/l	0.05	NONE	< 0.05				
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Dibenzofuran	µg/l	0.05	NONE	< 0.05				
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Diethyl phthalate	µg/l	0.05	NONE	< 0.05				
4-Nitroaniline	µg/l	0.05	NONE	< 0.05				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Azobenzene	µg/l	0.05	NONE	< 0.05				
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Carbazole	µg/l	0.05	NONE	< 0.05				
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05				
Anthraquinone	µg/l	0.05	NONE	< 0.05				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

U/S = Unsuitable Sample I/S = Insufficient Sample



**Analytical Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
458256	BH101	None Supplied	0.50	Light brown clay and sand with vegetation.
458257	BH101	None Supplied	1.50	Beige clay and sand with vegetation.
458258	BH101	None Supplied	2.00	Grey clay and sand.
458259	BH101	None Supplied	4.00	Light grey clay and sand.
458260	BH101	None Supplied	5.00	Light grey clay and sand.



**Analytical Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chemical Oxygen Demand in Water (Settled)	Determination of settled COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025

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**Analytical Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

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**Analytical Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

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**Preliminary Report Number : 15-74181**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 0

**Samples Analysed:** 5 soil samples - 1 water sample

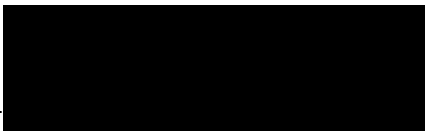
**Samples received on:** 19/06/2015

**Samples instructed on:** 24/06/2015

**Analysis completed by:** not complete

**Report issued on:** 30/06/2015

**Sign**



Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Preliminary reports provided at the request of the client should be considered as incomplete and have not been through the complete quality control procedure.

Results contained in preliminary reports may be subject to change and therefore should not be used as a basis for decision making, except at the risk of the client.



Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260			
Sample Reference	BH101	BH101	BH101	BH101	BH101			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	0.50	1.50	2.00	4.00	5.00			
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015			
Time Taken	0855	1045	1100	1155	1215			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	22	31	38	38	36
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Loose fibres	Chrysotile- Loose fibres; Crocidolite- loose fibres	Chrysotile- Loose fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	6.6	10.4	8.8	8.1	8.2
Electrical Conductivity	µS/cm	10	NONE	2500	8800	8100	6900	5100
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	17000	15000	9200	2000	1300
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.1	10	9.3	3.1	0.52
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	4100	10000	9300	3100	520
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.0	5.0	4.6	1.6	0.26
Sulphide	mg/kg	1	MCERTS	< 1.0	86	37	65	68
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	390	7000	7000	5100	4000
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	270	160	26
Organic Matter	%	0.1	MCERTS	0.9	3.4	5.0	3.7	3.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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**Speciated PAHs**

	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
Naphthalene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.22	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.2	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.18	0.37	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.38	1.2	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.30	1.0	2.1	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.22	0.74	1.5	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.17	0.66	1.4	< 0.05	< 0.05
Chrysene	mg/kg	0.1	MCERTS	0.25	1.2	2.3	< 0.10	< 0.10
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.1	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.17	0.97	2.0	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.64	1.4	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.26	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.78	1.6	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	8.4	19	< 1.6	< 1.6
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Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260
Sample Reference	BH101	BH101	BH101	BH101	BH101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	2.00	4.00	5.00
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015
Time Taken	0855	1045	1100	1155	1215
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**Heavy Metals / Metalloids**

	mg/kg	30	NONE	14000	17000	18000	28000	25000
Aluminium (aqua regia extractable)	mg/kg	30	NONE	14000	17000	18000	28000	25000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	18	35	21	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	100	170	43	39
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	1.0	1.1	1.5	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	4.5	7.6	11	9.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.0	4.0	7.0	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	70	110	54	38
Copper (aqua regia extractable)	mg/kg	1	MCERTS	210	95	160	21	12
Iron (aqua regia extractable)	mg/kg	40	MCERTS	37000	30000	36000	56000	42000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	120	190	32	21
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	300	270	310	980	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	2.0	4.5	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	3.5	1.8	3.5	1.6	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	37	30	42	39	26
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	410	2000	3800	900	640
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	4.4	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	48	49	62	84	64
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	310	280	480	110	74

Calcium (aqua regia extractable)	mg/kg	20	NONE	38000	88000	79000	19000	31000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3100	6600	6700	11000	8300
Potassium (aqua regia extractable)	mg/kg	20	NONE	6100	23000	27000	10000	5700

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	6.1	13	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	8.2	42	98	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	53	160	380	< 8.0	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	61	210	490	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	4.0	3.0	6.7	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	31	71	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	28	170	370	< 10	20
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	32	200	450	< 10	20





Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260
Sample Reference	BH101	BH101	BH101	BH101	BH101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	2.00	4.00	5.00
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015
Time Taken	0855	1045	1100	1155	1215
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-74181

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458256	458257	458258	458259	458260
Sample Reference	BH101	BH101	BH101	BH101	BH101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	2.00	4.00	5.00
Date Sampled	18/06/2015	18/06/2015	18/06/2015	18/06/2015	18/06/2015
Time Taken	0855	1045	1100	1155	1215
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

SVOCs				458256	458257	458258	458259	458260
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.22	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.2	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.18	0.37	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	0.38	1.2	2.6	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.30	1.0	2.1	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.22	0.74	1.5	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.17	0.66	1.4	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.25	1.2	2.3	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.50	1.1	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.17	0.97	2.0	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.64	1.4	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.26	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.78	1.6	< 0.05	< 0.05



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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**General Inorganics**

pH	pH Units	N/A	ISO 17025	8.3				
Electrical Conductivity	µS/cm	10	NONE	23000				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Complex Cyanide	µg/l	10	NONE	< 10				
Free Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	1820000				
Sulphide	µg/l	5	NONE	< 5.0				
Chloride	mg/l	0.15	ISO 17025	20000				
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	100000				
Nitrate as N	mg/l	0.01	ISO 17025	0.34				
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	1.50				
Nitrite as N	µg/l	1	ISO 17025	4.0				
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	13				
Chemical Oxygen Demand (Settled)	mg/l	2	ISO 17025	300				
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	To follow				
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.3				

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	650				
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Coronene	µg/l	0.01	NONE	< 0.01				

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2				
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2				



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<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.0190				
Antimony (dissolved)	µg/l	0.4	ISO 17025	6.8				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	24.7				
Barium (dissolved)	µg/l	0.06	ISO 17025	250				
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Boron (dissolved)	µg/l	10	ISO 17025	1300				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.0				
Copper (dissolved)	µg/l	0.5	ISO 17025	6.1				
Iron (dissolved)	mg/l	0.004	ISO 17025	0.41				
Lead (dissolved)	µg/l	0.2	ISO 17025	2.7				
Manganese (dissolved)	µg/l	0.05	ISO 17025	84				
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05				
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	51				
Nickel (dissolved)	µg/l	0.5	ISO 17025	9.4				
Selenium (dissolved)	µg/l	0.6	ISO 17025	210				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	19				
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.1				

Calcium (dissolved)	mg/l	0.012	ISO 17025	270				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	610				
Potassium (dissolved)	mg/l	0.025	ISO 17025	4700				
Phosphorus (total)	mg/l	0.05	ISO 17025	86				
Phosphorus (total)	µg/l	20	ISO 17025	86000				

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10				

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10				



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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0				
Chloroethane	µg/l	1	ISO 17025	< 1.0				
Bromomethane	µg/l	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/l	1	NONE	< 1.0				
Trichlorofluoromethane	µg/l	1	NONE	< 1.0				
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0				
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloromethane	µg/l	1	ISO 17025	< 1.0				
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0				
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0				
Benzene	µg/l	1	ISO 17025	< 1.0				
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0				
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Trichloroethene	µg/l	1	ISO 17025	< 1.0				
Dibromomethane	µg/l	1	ISO 17025	< 1.0				
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0				
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0				
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0				
Chlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-Xylene	µg/l	1	ISO 17025	< 1.0				
Styrene	µg/l	1	ISO 17025	< 1.0				
Tribromomethane	µg/l	1	ISO 17025	< 1.0				
o-Xylene	µg/l	1	ISO 17025	< 1.0				
1,1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0				
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0				
Bromobenzene	µg/l	1	ISO 17025	< 1.0				
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0				
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Butylbenzene	µg/l	1	ISO 17025	< 1.0				
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0				
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0				



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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458261				
<b>Sample Reference</b>				BH101				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.80				
<b>Date Sampled</b>				19/06/2015				
<b>Time Taken</b>				1100				
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**SVOCs**

Aniline	µg/l	0.05	NONE	< 0.05				
Phenol	µg/l	0.05	NONE	< 0.05				
2-Chlorophenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05				
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05				
2-Methylphenol	µg/l	0.05	NONE	< 0.05				
Hexachloroethane	µg/l	0.05	NONE	< 0.05				
Nitrobenzene	µg/l	0.05	NONE	< 0.05				
4-Methylphenol	µg/l	0.05	NONE	< 0.05				
Isophorone	µg/l	0.05	NONE	< 0.05				
2-Nitrophenol	µg/l	0.05	NONE	< 0.05				
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05				
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05				
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05				
4-Chloroaniline	µg/l	0.05	NONE	< 0.05				
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05				
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05				
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05				
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05				
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05				
Dimethylphthalate	µg/l	0.05	NONE	< 0.05				
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05				
Dibenzofuran	µg/l	0.05	NONE	< 0.05				
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Diethyl phthalate	µg/l	0.05	NONE	< 0.05				
4-Nitroaniline	µg/l	0.05	NONE	< 0.05				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Azobenzene	µg/l	0.05	NONE	< 0.05				
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05				
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Carbazole	µg/l	0.05	NONE	< 0.05				
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05				
Anthraquinone	µg/l	0.05	NONE	< 0.05				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

U/S = Unsuitable Sample I/S = Insufficient Sample



**Preliminary Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
458256	BH101	None Supplied	0.50	Light brown clay and sand with vegetation.
458257	BH101	None Supplied	1.50	Beige clay and sand with vegetation.
458258	BH101	None Supplied	2.00	Grey clay and sand.
458259	BH101	None Supplied	4.00	Light grey clay and sand.
458260	BH101	None Supplied	5.00	Light grey clay and sand.



**Preliminary Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chemical Oxygen Demand in Water (Settled)	Determination of settled COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025

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**Preliminary Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

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**Preliminary Report Number : 15-74181**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

ISS NO 15-74181-0

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## Sample Deviation Report



Sample ID	BH101	BH101	BH101	BH101	BH101	BH101
Other ID						
Sample Type	S	S	S	S	S	W
Job Number	15-74181	15-74181	15-74181	15-74181	15-74181	15-74181
Sample Number	458256	458257	458258	458259	458260	458261
Deviation Code	c	c	c	c	c	c
Test Name	Method no					
Ammoniacal Nitrogen as N in water	L082-PL	-	-	-	-	c
Biological oxygen demand of water	L086-PL	-	-	-	-	c
Electrical conductivity of water	L031-PL	-	-	-	-	c
Hexavalent chromium in water	L080-PL	-	-	-	-	c
Nitrate as N in water	L078-PL	-	-	-	-	c
Nitrate in water	L078-PL	-	-	-	-	c
Nitrite as N in water	L077-PL	-	-	-	-	c
Nitrite in water	L077-PL	-	-	-	-	c
pH in water	L005-PL	-	-	-	-	c
Sulphide in soil	L010-PL	c	c	c	c	-
Sulphide in water	L010-PL	-	-	-	-	c
Total oxidised nitrogen in water	L078-PL	-	-	-	-	c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature



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## **Analytical Report Number : 15-74176**

Replaces Analytical Report Number : 15-74176, issue no. 1

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	23/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	24/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	02/07/2015
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	02/07/2015
<b>Samples Analysed:</b>	3 soil samples		

**Sign**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74176

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458244		458245		458246			
Sample Reference	BH204		BH204		BH204			
Sample Number	None Supplied		None Supplied		None Supplied			
Depth (m)	1.00		3.00		3.60			
Date Sampled	23/06/2015		23/06/2015		23/06/2015			
Time Taken	1100		1120		1150			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	32	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	6.3	32	34		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0		

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile		
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected		
Asbestos Quantification	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001		

#### General Inorganics

	pH Units	N/A	MCERTS	11.1	8.4	8.3		
pH	pH Units	N/A	MCERTS	11.1	8.4	8.3		
Electrical Conductivity	µS/cm	10	NONE	740	520	480		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1		
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	5400	1900	2500		
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	1.1	1.8	1.7		
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	1100	1800	1700		
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.56	0.92	0.84		
Sulphide	mg/kg	1	MCERTS	6.6	30	22		
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	66	68	280		
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	18	28		
Organic Matter	%	0.1	MCERTS	1.2	3.8	3.8		
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0		
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20		
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0		

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
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#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.31	0.49	0.55		
Acenaphthylene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.1	MCERTS	0.45	< 0.10	< 0.10		
Phenanthrene	mg/kg	0.1	MCERTS	1.6	0.45	0.54		
Anthracene	mg/kg	0.1	MCERTS	0.61	0.12	0.16		
Fluoranthene	mg/kg	0.1	MCERTS	2.0	0.63	0.85		
Pyrene	mg/kg	0.1	MCERTS	1.5	0.50	0.71		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.0	0.37	0.53		
Chrysene	mg/kg	0.05	MCERTS	0.81	0.36	0.47		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.88	0.62	0.79		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.41	0.18	0.35		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.67	0.46	0.58		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.38	0.32	0.45		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.43	0.39	0.57		
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05		

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	11	4.9	6.6		
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Analytical Report Number: 15-74176

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458244	458245	458246		
Sample Reference	BH204	BH204	BH204		
Sample Number	None Supplied	None Supplied	None Supplied		
Depth (m)	1.00	3.00	3.60		
Date Sampled	23/06/2015	23/06/2015	23/06/2015		
Time Taken	1100	1120	1150		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	12000	24000	27000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.1	3.3	3.5		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.5	19	23		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	100	160		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.9	1.6	2.3		
Boron (water soluble)	mg/kg	0.2	MCERTS	2.2	6.0	5.7		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	59	44	50		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34	27	48		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	21000	40000	46000		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	47	41	47		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	370	320	300		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.9	1.5	1.5		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36	28	35		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	750	480	480		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	74	85		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	84	88	92		

Calcium (aqua regia extractable)	mg/kg	20	NONE	150000	81000	53000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	4300	5600	6600		
Potassium (aqua regia extractable)	mg/kg	20	NONE	2400	6300	6600		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	3.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	21	12	22		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	61	150	280		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	82	160	300		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	2.4	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	18	< 10	16		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	36	37	110		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	56	37	130		

Analytical Report Number: 15-74176

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	458244	458245	458246		
<b>Sample Reference</b>	BH204	BH204	BH204		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	1.00	3.00	3.60		
<b>Date Sampled</b>	23/06/2015	23/06/2015	23/06/2015		
<b>Time Taken</b>	1100	1120	1150		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

VOCs						
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0

Analytical Report Number: 15-74176

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	458244	458245	458246		
Sample Reference	BH204	BH204	BH204		
Sample Number	None Supplied	None Supplied	None Supplied		
Depth (m)	1.00	3.00	3.60		
Date Sampled	23/06/2015	23/06/2015	23/06/2015		
Time Taken	1100	1120	1150		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

SVOCs						
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	0.31	0.49	0.55
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	0.7	0.5	0.5
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	0.5	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	0.45	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	1.6	0.45	0.54
Anthracene	mg/kg	0.1	MCERTS	0.61	0.12	0.16
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	2.0	0.63	0.85
Pyrene	mg/kg	0.1	MCERTS	1.5	0.50	0.71
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.0	0.37	0.53
Chrysene	mg/kg	0.05	MCERTS	0.81	0.36	0.47
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.88	0.62	0.79
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.41	0.18	0.35
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.67	0.46	0.58
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.38	0.32	0.45
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.43	0.39	0.57





**Analytical Report Number:** 15-74176  
**Project / Site name:** London Paramount Entertainment Resort  
**Your Order No:**

## Certificate of Analysis - Asbestos Quantification

### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

Any material greater than 16mm is considered as Bulk sample and reported separately, asbestos content (if any) is not included in the final Quantitative analysis. The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.  
Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
458244	BH204	1.00	128	Loose Fibres	Chrysotile	< 0.001	< 0.001
458245	BH204	3.00	94	Loose Fibres	Chrysotile	< 0.001	< 0.001
458246	BH204	3.60	106	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

**Analytical Report Number : 15-74176**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
458244	BH204	None Supplied	1.00	Beige sandy loam with gravel.
458245	BH204	None Supplied	3.00	Light grey clay and loam with gravel.
458246	BH204	None Supplied	3.60	Light grey clay and loam with gravel.

**Analytical Report Number : 15-74176**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

**Analytical Report Number : 15-74176**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is assayed by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74166**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	19/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	24/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	30/06/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	30/06/2015
<b>Samples Analysed:</b>	1 soil sample		

**Signature**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signature**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74166

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458162				
<b>Sample Reference</b>				BH704				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.80				
<b>Date Sampled</b>				18/06/2015				
<b>Time Taken</b>				None Supplied				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	12				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	8.3				
Electrical Conductivity	µS/cm	10	NONE	130				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	500				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.037				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	37				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.019				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	15				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.9				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	3.8				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74166

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	458162							
<b>Sample Reference</b>	BH704							
<b>Sample Number</b>	None Supplied							
<b>Depth (m)</b>	1.80							
<b>Date Sampled</b>	18/06/2015							
<b>Time Taken</b>	None Supplied							
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	13000				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.4				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.6				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	57				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7				
Boron (water soluble)	mg/kg	0.2	MCERTS	1.0				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6.8				
Iron (aqua regia extractable)	mg/kg	40	MCERTS	22000				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	7.8				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	260				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16				
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	370				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	41				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	35				

Calcium (aqua regia extractable)	mg/kg	20	NONE	25000				
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2800				
Potassium (aqua regia extractable)	mg/kg	20	NONE	2100				

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10				

Analytical Report Number: 15-74166

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	458162			
<b>Sample Reference</b>	BH704			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	1.80			
<b>Date Sampled</b>	18/06/2015			
<b>Time Taken</b>	None Supplied			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0



Analytical Report Number: 15-74166

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				458162				
<b>Sample Reference</b>				BH704				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.80				
<b>Date Sampled</b>				18/06/2015				
<b>Time Taken</b>				None Supplied				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number : 15-74166**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
458162	BH704	None Supplied	1.80	Light brown clay and sand.

**Analytical Report Number : 15-74166**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74166**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**

i2 Job Number  
15-74166\_1 SD

## Sample Deviation Report



<b>Sample ID</b>	<b>BH704</b>
<b>Other ID</b>	
<b>Sample Type</b>	<b>S</b>
<b>Job Number</b>	<b>15-74166</b>
<b>Sample Number</b>	<b>458162</b>
<b>Deviation Code</b>	<b>c</b>
<b>Test Name</b>	<b>Method no</b>
Sulphide in soil	L010-PL c

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature



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## **Analytical Report Number : 15-74029**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 17/06/2015

**Your job number:** 30766

**Samples instructed on:** 19/06/2015

**Your order number:**

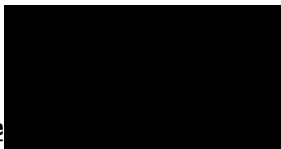
**Analysis completed by:** 26/06/2015

**Report Issue Number:** 1

**Report issued on:** 26/06/2015

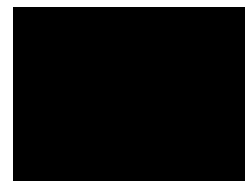
**Samples Analysed:** 1 soil sample

**Signed:**



Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 15-74029

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457390				
<b>Sample Reference</b>				BH705				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				17/06/2015				
<b>Time Taken</b>				0955				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	12				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	8.2				
Electrical Conductivity	µS/cm	10	NONE	90				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	430				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.030				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	30				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.015				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	3.3				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	< 0.1				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	0.28				
Pyrene	mg/kg	0.1	MCERTS	0.24				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.15				
Chrysene	mg/kg	0.05	MCERTS	0.16				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-74029

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	457390			
<b>Sample Reference</b>	BH705			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	1.00			
<b>Date Sampled</b>	17/06/2015			
<b>Time Taken</b>	0955			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	9300
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.0
Barium (aqua regia extractable)	mg/kg	1	MCERTS	50
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.7
Iron (aqua regia extractable)	mg/kg	40	MCERTS	22000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	7.7
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	750
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	32

Calcium (aqua regia extractable)	mg/kg	20	NONE	63000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3800
Potassium (aqua regia extractable)	mg/kg	20	NONE	2400

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10



Analytical Report Number: 15-74029

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	457390						
<b>Sample Reference</b>	BH705						
<b>Sample Number</b>	None Supplied						
<b>Depth (m)</b>	1.00						
<b>Date Sampled</b>	17/06/2015						
<b>Time Taken</b>	0955						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

VOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Chloromethane	µg/kg	1	ISO 17025	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0			

Analytical Report Number: 15-74029

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457390				
<b>Sample Reference</b>				BH705				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				1.00				
<b>Date Sampled</b>				17/06/2015				
<b>Time Taken</b>				0955				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	0.28				
Pyrene	mg/kg	0.1	MCERTS	0.24				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.15				
Chrysene	mg/kg	0.05	MCERTS	0.16				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number : 15-74029**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
457390	BH705	None Supplied	1.00	Light brown sand.

**Analytical Report Number : 15-74029**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74029**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



**Emma Leivers**

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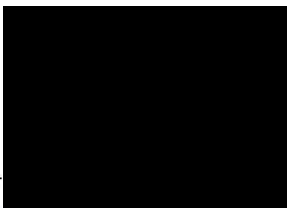
**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

## **Analytical Report Number : 15-74028**

Replaces Analytical Report Number : 15-74028, issue no. 1

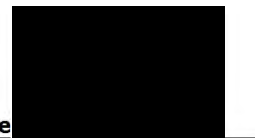
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	11/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	19/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	29/06/2015
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	29/06/2015
<b>Samples Analysed:</b>	1 soil sample		

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signe**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457389				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				10.50				
<b>Date Sampled</b>				11/06/2015				
<b>Time Taken</b>				1030				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	46				
Total mass of sample received	kg	0.001	NONE	2.0				

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification	%	0.001	ISO 17025	< 0.001				

**General Inorganics**

pH	pH Units	N/A	MCERTS	8.4				
Electrical Conductivity	µS/cm	10	NONE	3200				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	5300				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.5				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	4500				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.2				
Sulphide	mg/kg	1	MCERTS	620				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	2500				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	170				
Organic Matter	%	0.1	MCERTS	6.3				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	0.16				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	0.38				
Pyrene	mg/kg	0.1	MCERTS	0.37				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.24				
Chrysene	mg/kg	0.05	MCERTS	0.24				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.24				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.17				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.20				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	2.0				
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Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	457389			
<b>Sample Reference</b>	BH202			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	10.50			
<b>Date Sampled</b>	11/06/2015			
<b>Time Taken</b>	1030			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	17000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	47
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	6.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22
Iron (aqua regia extractable)	mg/kg	40	MCERTS	41000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	38
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	600
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	62
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	86

Calcium (aqua regia extractable)	mg/kg	20	NONE	30000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	7600
Potassium (aqua regia extractable)	mg/kg	20	NONE	5600

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	6.9
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	15
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	22

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	58
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	110
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	12
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	180



Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	457389			
<b>Sample Reference</b>	BH202			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	10.50			
<b>Date Sampled</b>	11/06/2015			
<b>Time Taken</b>	1030			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0

Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457389			
<b>Sample Reference</b>				BH202			
<b>Sample Number</b>				None Supplied			
<b>Depth (m)</b>				10.50			
<b>Date Sampled</b>				11/06/2015			
<b>Time Taken</b>				1030			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

SVOCs							
Analytical Parameter	Units	Limit of detection	Accreditation Status	Result			
Aniline	mg/kg	0.1	NONE	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3			
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS	< 0.05			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2			
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2			
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2			
Fluorene	mg/kg	0.1	MCERTS	< 0.10			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3			
Phenanthrene	mg/kg	0.1	MCERTS	0.16			
Anthracene	mg/kg	0.1	MCERTS	< 0.10			
Carbazole	mg/kg	0.3	MCERTS	< 0.3			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3			
Fluoranthene	mg/kg	0.1	MCERTS	0.38			
Pyrene	mg/kg	0.1	MCERTS	0.37			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.24			
Chrysene	mg/kg	0.05	MCERTS	0.24			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.24			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.17			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.20			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05			



**Analytical Report Number:** 15-74028  
**Project / Site name:** London Paramount Entertainment Resort  
**Your Order No:**

## Certificate of Analysis - Asbestos Quantification

### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

Any material greater than 16mm is considered as Bulk sample and reported separately, asbestos content (if any) is not included in the final Quantitative analysis. The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.  
Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
457389	BH202	10.50	101	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditator



**Analytical Report Number : 15-74028**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
457389	BH202	None Supplied	10.50	Light grey clay and loam with gravel.

**Analytical Report Number : 15-74028**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

**Analytical Report Number : 15-74028**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is assayed by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-74028**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 11/06/2015

**Your job number:** 30766

**Samples instructed on:** 19/06/2015

**Your order number:**

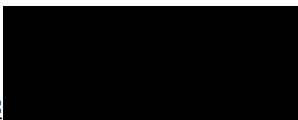
**Analysis completed by:** 26/06/2015

**Report Issue Number:** 1

**Report issued on:** 26/06/2015

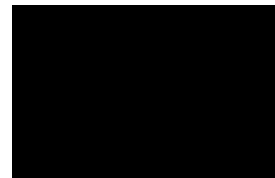
**Samples Analysed:** 1 soil sample

**Signed:**



Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457389			
<b>Sample Reference</b>				BH202			
<b>Sample Number</b>				None Supplied			
<b>Depth (m)</b>				10.50			
<b>Date Sampled</b>				11/06/2015			
<b>Time Taken</b>				1030			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				
Stone Content	%	0.1	NONE	< 0.1			
Moisture Content	%	N/A	NONE	46			
Total mass of sample received	kg	0.001	NONE	2.0			

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite- Loose fibres			
Asbestos in Soil	Type	N/A	ISO 17025	Detected			

#### General Inorganics

pH	pH Units	N/A	MCERTS	8.4			
Electrical Conductivity	µS/cm	10	NONE	3200			
Total Cyanide	mg/kg	1	MCERTS	< 1			
Complex Cyanide	mg/kg	1	NONE	< 1			
Free Cyanide	mg/kg	1	NONE	< 1			
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	5300			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.5			
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	4500			
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.2			
Sulphide	mg/kg	1	MCERTS	620			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	2500			
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	170			
Organic Matter	%	0.1	MCERTS	6.3			
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0			
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20			
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0			

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0			
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#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10			
Fluorene	mg/kg	0.1	MCERTS	< 0.10			
Phenanthrene	mg/kg	0.1	MCERTS	0.16			
Anthracene	mg/kg	0.1	MCERTS	< 0.10			
Fluoranthene	mg/kg	0.1	MCERTS	0.38			
Pyrene	mg/kg	0.1	MCERTS	0.37			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.24			
Chrysene	mg/kg	0.05	MCERTS	0.24			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.24			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.17			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.20			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05			
Coronene	mg/kg	0.05	NONE	< 0.05			

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	2.0			
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Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	457389			
<b>Sample Reference</b>	BH202			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	10.50			
<b>Date Sampled</b>	11/06/2015			
<b>Time Taken</b>	1030			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	17000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	47
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	6.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22
Iron (aqua regia extractable)	mg/kg	40	MCERTS	41000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	38
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	600
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	62
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	86

Calcium (aqua regia extractable)	mg/kg	20	NONE	30000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	7600
Potassium (aqua regia extractable)	mg/kg	20	NONE	5600

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	6.9
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	15
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	22

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	58
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	110
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	12
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	180

Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	457389			
<b>Sample Reference</b>	BH202			
<b>Sample Number</b>	None Supplied			
<b>Depth (m)</b>	10.50			
<b>Date Sampled</b>	11/06/2015			
<b>Time Taken</b>	1030			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

VOCs				
Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0

Analytical Report Number: 15-74028

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457389				
<b>Sample Reference</b>				BH202				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				10.50				
<b>Date Sampled</b>				11/06/2015				
<b>Time Taken</b>				1030				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Result				
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	0.16				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	0.38				
Pyrene	mg/kg	0.1	MCERTS	0.37				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.24				
Chrysene	mg/kg	0.05	MCERTS	0.24				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.24				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.17				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.20				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number : 15-74028**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
457389	BH202	None Supplied	10.50	Light grey clay and loam with gravel.

**Analytical Report Number : 15-74028**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74028**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



**Emma Leivers**

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**Analytical Report Number : 15-74027**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	17/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	19/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	26/06/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	26/06/2015
<b>Samples Analysed:</b>	1 soil sample		

**Sig**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sign**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-74027

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457388				
<b>Sample Reference</b>				BH704				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				17/06/2015				
<b>Time Taken</b>				1255				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	12				
Total mass of sample received	kg	0.001	NONE	2.0				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	7.3				
Electrical Conductivity	µS/cm	10	NONE	110				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	MCERTS	670				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.027				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	27				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.014				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	7.5				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.9				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	6.5				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	6.5				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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<b>Depth (m)</b>	0.50			
<b>Date Sampled</b>	17/06/2015			
<b>Time Taken</b>	1255			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>	

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	13000
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	73
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.8
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14
Iron (aqua regia extractable)	mg/kg	40	MCERTS	26000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	39
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	250
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	900
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	49
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58

Calcium (aqua regia extractable)	mg/kg	20	NONE	17000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3200
Potassium (aqua regia extractable)	mg/kg	20	NONE	2700

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10

Analytical Report Number: 15-74027

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457388				
<b>Sample Reference</b>				BH704				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				17/06/2015				
<b>Time Taken</b>				1255				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

VOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Chloromethane	µg/kg	1	ISO 17025	< 1.0				
Chloroethane	µg/kg	1	ISO 17025	< 1.0				
Bromomethane	µg/kg	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0				
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0				
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0				
Trichloromethane	µg/kg	1	MCERTS	< 1.0				
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0				
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0				
Benzene	µg/kg	1	MCERTS	< 1.0				
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0				
Trichloroethene	µg/kg	1	MCERTS	< 1.0				
Dibromomethane	µg/kg	1	MCERTS	< 1.0				
Bromodichloromethane	µg/kg	1	NONE	< 1.0				
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0				
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0				
Chlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-Xylene	µg/kg	1	MCERTS	< 1.0				
Styrene	µg/kg	1	MCERTS	< 1.0				
Tribromomethane	µg/kg	1	MCERTS	< 1.0				
o-Xylene	µg/kg	1	MCERTS	< 1.0				
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0				
Isopropylbenzene	µg/kg	1	NONE	< 1.0				
Bromobenzene	µg/kg	1	MCERTS	< 1.0				
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/kg	1	NONE	< 1.0				
4-Chlorotoluene	µg/kg	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0				
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0				

Analytical Report Number: 15-74027

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				457388				
<b>Sample Reference</b>				BH704				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				0.50				
<b>Date Sampled</b>				17/06/2015				
<b>Time Taken</b>				1255				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

SVOCs								
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	Result				
Aniline	mg/kg	0.1	NONE	< 0.1				
Phenol	mg/kg	0.2	ISO 17025	< 0.2				
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1				
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2				
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1				
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2				
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1				
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3				
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05				
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3				
4-Methylphenol	mg/kg	0.2	NONE	< 0.2				
Isophorone	mg/kg	0.2	MCERTS	< 0.2				
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3				
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3				
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3				
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1				
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2				
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1				
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1				
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2				
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2				
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3				
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Azobenzene	mg/kg	0.3	MCERTS	< 0.3				
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2				
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Carbazole	mg/kg	0.3	MCERTS	< 0.3				
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2				
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				



**Analytical Report Number : 15-74027**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
457388	BH704	None Supplied	0.50	Brown loam and clay with gravel.

**Analytical Report Number : 15-74027**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-74027**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is measured by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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WD18 8YS

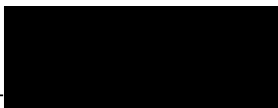
**t:** 01452 527 743  
**f:** 01452 729 314  
**e:** emma.leivers@qeoeng.co.uk

**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

## **Analytical Report Number : 15-73713**

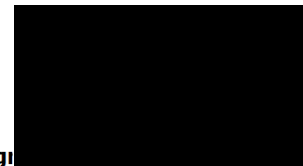
<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	16/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	17/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	26/06/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	26/06/2015
<b>Samples Analysed:</b>	1 wac multi sample		

**Signed:**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

## i2 Analytical

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email:reception@i2analytical.com

### Waste Acceptance Criteria Analytical Results

<b>Report No:</b>	15-73713					
				<b>Client: GEOENG</b>		
<b>Location</b>	London Paramount Entertainment Resort					
<b>Lab Reference (Sample Number)</b>	455513			<b>Landfill Waste Acceptance Criteria</b>		
<b>Sampling Date</b>	15/06/2015			<b>Limits</b>		
<b>Sample ID</b>	BH706			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
<b>Depth (m)</b>	2.80					
<b>Solid Waste Analysis</b>						
TOC (%)**	< 0.1			3%	5%	6%
Loss on Ignition (%) **	2.5			--	--	10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.30			1	--	--
Mineral Oil (mg/kg)	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6			100	--	--
pH (units)**	8.3			--	>6	--
Acid Neutralisation Capacity (mol / kg)	9.0			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2
Barium *	0.034	0.018		0.21	20	100
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1
Chromium *	0.0072	< 0.0010		0.015	0.5	10
Copper *	0.0024	< 0.0030		0.021	2	50
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2
Molybdenum *	< 0.0030	< 0.0030		< 0.020	0.5	10
Nickel *	0.0036	< 0.0010		0.0092	0.4	10
Lead *	< 0.0050	< 0.0050		0.036	0.5	10
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5
Zinc *	0.0073	0.0019		0.027	4	50
Chloride *	< 4.0	< 4.0		< 15	800	4000
Fluoride	0.16	0.14		1.4	10	150
Sulphate *	2.2	0.45		6.9	1000	20000
TDS	60	40		430	4000	60000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-
DOC	1.6	1.8		18	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.4					
Dry Matter (%)	93					
Moisture (%)	7.5					
<b>Stage 1</b>						
Volume Eluate L2 (litres)	0.34					
Filtered Eluate VE1 (litres)	0.24					
Results are expressed on a dry weight basis, after correction for moisture content where applicable						
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation						

\* = UKAS accredited (liquid eluate analysis only)

\*\* = MCERTS accredited





**Analytical Report Number : 15-73713**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
455513	BH706	None Supplied	2.80	Light brown loam and clay.

**Analytical Report Number : 15-73713**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1 ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Sociated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS



**Analytical Report Number : 15-73713**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



**Emma Leivers**

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## **Analytical Report Number : 15-73711**

**Project / Site name:** London Paramount Entertainment Resort

**Samples received on:** 16/06/2015

**Your job number:** 30766

**Samples instructed on:** 17/06/2015

**Your order number:**

**Analysis completed by:** 23/06/2015

**Report Issue Number:** 1

**Report issued on:** 23/06/2015

**Samples Analysed:** 1 soil sample

**Signature**

Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signature**

Rexona Rahman  
Reporting Manager

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-73711

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				45511				
<b>Sample Reference</b>				BH706				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.00				
<b>Date Sampled</b>				15/06/2015				
<b>Time Taken</b>				1545				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	8.2				
Total mass of sample received	kg	0.001	NONE	1.2				

<b>Asbestos in Soil</b>	Type	N/A	ISO 17025	Not-detected				
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**General Inorganics**

pH	pH Units	N/A	MCERTS	8.5				
Electrical Conductivity	µS/cm	10	NONE	110				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Complex Cyanide	mg/kg	1	NONE	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				
Total Sulphate as SO <sub>4</sub>	mg/kg	50	ISO 17025	680				
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.011				
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	11				
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.0053				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	23				
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	< 0.1				
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0				
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20				
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0				

**Total Phenols**

<b>Total Phenols (monohydric)</b>	mg/kg	1	MCERTS	< 1.0				
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Pyrene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				

**Total PAH**

<b>Total WAC-17 PAHs</b>	mg/kg	1.6	NONE	< 1.6				
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Analytical Report Number: 15-73711

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	45511						
Sample Reference	BH706						
Sample Number	None Supplied						
Depth (m)	2.00						
Date Sampled	15/06/2015						
Time Taken	1545						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	15000			
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	51			
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7			
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	42			
Iron (aqua regia extractable)	mg/kg	40	MCERTS	30000			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.4			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	340			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20			
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	950			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	38			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	39			

Calcium (aqua regia extractable)	mg/kg	20	NONE	79000			
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	4700			
Potassium (aqua regia extractable)	mg/kg	20	NONE	2600			

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0			
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10			

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10			
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10			

Analytical Report Number: 15-73711

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				45511				
<b>Sample Reference</b>				BH706				
<b>Sample Number</b>				None Supplied				
<b>Depth (m)</b>				2.00				
<b>Date Sampled</b>				15/06/2015				
<b>Time Taken</b>				1545				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**VOCs**

Chloromethane	µg/kg	1	ISO 17025	< 1.0				
Chloroethane	µg/kg	1	ISO 17025	< 1.0				
Bromomethane	µg/kg	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0				
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0				
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0				
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0				
Trichloromethane	µg/kg	1	MCERTS	< 1.0				
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0				
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0				
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0				
Benzene	µg/kg	1	MCERTS	< 1.0				
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0				
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0				
Trichloroethene	µg/kg	1	MCERTS	< 1.0				
Dibromomethane	µg/kg	1	MCERTS	< 1.0				
Bromodichloromethane	µg/kg	1	NONE	< 1.0				
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0				
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0				
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0				
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0				
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0				
Chlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-Xylene	µg/kg	1	MCERTS	< 1.0				
Styrene	µg/kg	1	MCERTS	< 1.0				
Tribromomethane	µg/kg	1	MCERTS	< 1.0				
o-Xylene	µg/kg	1	MCERTS	< 1.0				
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0				
Isopropylbenzene	µg/kg	1	NONE	< 1.0				
Bromobenzene	µg/kg	1	MCERTS	< 1.0				
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/kg	1	NONE	< 1.0				
4-Chlorotoluene	µg/kg	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0				
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0				
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0				
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0				
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0				
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0				

Analytical Report Number: 15-73711

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	455511						
<b>Sample Reference</b>	BH706						
<b>Sample Number</b>	None Supplied						
<b>Depth (m)</b>	2.00						
<b>Date Sampled</b>	15/06/2015						
<b>Time Taken</b>	1545						
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

SVOCs							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Aniline	mg/kg	0.1	NONE	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3			
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS	< 0.05			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2			
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2			
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2			
Fluorene	mg/kg	0.1	MCERTS	< 0.10			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3			
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10			
Anthracene	mg/kg	0.1	MCERTS	< 0.10			
Carbazole	mg/kg	0.3	MCERTS	< 0.3			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3			
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10			
Pyrene	mg/kg	0.1	MCERTS	< 0.10			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10			
Chrysene	mg/kg	0.05	MCERTS	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05			





**Analytical Report Number : 15-73711**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
455511	BH706	None Supplied	2.00	Light brown loam and sand.

**Analytical Report Number : 15-73711**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

**Analytical Report Number : 15-73711**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-73643**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	12/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	15/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	25/06/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	25/06/2015
<b>Samples Analysed:</b>	1 wac multi sample		

**Signed:**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

## i2 Analytical

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### Waste Acceptance Criteria Analytical Results

<b>Report No:</b>	15-73643					
				<b>Client: GEOENG</b>		
<b>Location</b>	London Paramount Entertainment Resort					
<b>Lab Reference (Sample Number)</b>	455161			<b>Landfill Waste Acceptance Criteria</b>		
<b>Sampling Date</b>	12/06/2015			<b>Limits</b>		
<b>Sample ID</b>	BH707			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
<b>Depth (m)</b>	3.85-3.95					
<b>Solid Waste Analysis</b>						
TOC (%)**	2.0			3%	5%	6%
Loss on Ignition (%) **	6.1			--	--	10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.30			1	--	--
Mineral Oil (mg/kg)	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6			100	--	--
pH (units)**	8.0			--	>6	--
Acid Neutralisation Capacity (mol / kg)	10			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	< 0.010		0.051	0.5	2
Barium *	0.13	0.099		1.0	20	100
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1
Chromium *	< 0.0010	< 0.0010		< 0.0050	0.5	10
Copper *	0.0030	< 0.0030		0.022	2	50
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2
Molybdenum *	0.020	0.0080		0.090	0.5	10
Nickel *	0.0018	0.0018		0.018	0.4	10
Lead *	< 0.0050	< 0.0050		0.023	0.5	10
Antimony *	< 0.0050	< 0.0050		0.039	0.06	0.7
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5
Zinc *	0.0029	0.0022		0.023	4	50
Chloride *	5.7	< 4.0		< 15	800	4000
Fluoride	1.1	1.0		10	10	150
Sulphate *	500	140		1700	1000	20000
TDS	590	230		2600	4000	60000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-
DOC	13	7.1		76	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	76					
Moisture (%)	24					
<b>Stage 1</b>						
Volume Eluate L2 (litres)	0.31					
Filtered Eluate VE1 (litres)	0.15					

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

\* = UKAS accredited (liquid eluate analysis only)

\*\* = MCERTS accredited



**Analytical Report Number : 15-73643**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
455161	BH707	None Supplied	3.85-3.95	Brown clay and gravel with chalk.

**Analytical Report Number : 15-73643**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1 ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Sociated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS



**Analytical Report Number : 15-73643**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.





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## **Analytical Report Number : 15-73642**

Replaces Analytical Report Number : 15-73642, issue no. 1

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	12/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	15/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	24/06/2015
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	24/06/2015
<b>Samples Analysed:</b>	2 soil samples		

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-73642

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				455159	455160			
<b>Sample Reference</b>				BH707	BH706			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				2.35-2.45	0.50			
<b>Date Sampled</b>				12/06/2015	11/06/2015			
<b>Time Taken</b>				0905	1520			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	16	10			
Total mass of sample received	kg	0.001	NONE	1.2	1.8			

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-			
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected			
Asbestos Quantification	%	0.001	ISO 17025	< 0.001	-			

#### General Inorganics

pH	pH Units	N/A	MCERTS	7.6	7.9			
Electrical Conductivity	µS/cm	10	NONE	590	100			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Complex Cyanide	mg/kg	1	NONE	< 1	< 1			
Free Cyanide	mg/kg	1	NONE	< 1	< 1			
Total Sulphate as SO <sub>4</sub>	mg/kg	50	ISO 17025	2400	480			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	1.6	0.018			
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	1600	18			
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.82	0.0091			
Sulphide	mg/kg	1	MCERTS	6.1	< 1.0			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	20	21			
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5			
Organic Matter	%	0.1	MCERTS	1.9	1.0			
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0			
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20			
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0			

#### Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0			
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#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05			

#### Total PAH

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6			
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Analytical Report Number: 15-73642

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	455159	455160					
<b>Sample Reference</b>	BH707	BH706					
<b>Sample Number</b>	None Supplied	None Supplied					
<b>Depth (m)</b>	2.35-2.45	0.50					
<b>Date Sampled</b>	12/06/2015	11/06/2015					
<b>Time Taken</b>	0905	1520					
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>				

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	13000	17000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.7	8.6		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	83	80		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7	0.7		
Boron (water soluble)	mg/kg	0.2	MCERTS	3.0	1.3		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	22		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	14		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	25000	30000		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	42	21		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	260	600		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.3	0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	18		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	680	1300		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	35		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	52		

Calcium (aqua regia extractable)	mg/kg	20	NONE	130000	24000		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	3700	3200		
Potassium (aqua regia extractable)	mg/kg	20	NONE	2800	2800		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	8.4	2.7		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	31	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	40	< 10		

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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	455159	455160				
<b>Sample Reference</b>	BH707	BH706				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	2.35-2.45	0.50				
<b>Date Sampled</b>	12/06/2015	11/06/2015				
<b>Time Taken</b>	0905	1520				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**VOCs**

Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0		
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0		
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0		
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0		
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0		
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0		
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0		
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0		
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0		
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0		
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0		
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0		
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0		



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<b>Lab Sample Number</b>	455159	455160				
<b>Sample Reference</b>	BH707	BH706				
<b>Sample Number</b>	None Supplied	None Supplied				
<b>Depth (m)</b>	2.35-2.45	0.50				
<b>Date Sampled</b>	12/06/2015	11/06/2015				
<b>Time Taken</b>	0905	1520				
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

SVOCs						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	455159	455160	
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	



**Analytical Report Number:** 15-73642  
**Project / Site name:** London Paramount Entertainment Resort  
**Your Order No:**

## Certificate of Analysis - Asbestos Quantification

### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

Any material greater than 16mm is considered as Bulk sample and reported separately, asbestos content (if any) is not included in the final Quantitative analysis. The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.  
Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
455159	BH707	2.35-2.45	129	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation



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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
455159	BH707	None Supplied	2.35-2.45	Brown clay and gravel with chalk.
455160	BH706	None Supplied	0.50	Light brown clay and sand.

**Analytical Report Number : 15-73642**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS



**Analytical Report Number : 15-73642**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a diazonium salt which forms chromophore which is assayed by colorimetry.	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



**Emma Leivers**

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## **Analytical Report Number : 15-73575**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	11/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	12/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	18/06/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	18/06/2015
<b>Samples Analysed:</b>	1 wac multi sample		

**Signed**

Rexona  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

## i2 Analytical

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### Waste Acceptance Criteria Analytical Results

<b>Report No:</b>	15-73575						
<b>Client:</b>	GEOENG						
<b>Location</b>	London Paramount Entertainment Resort						
<b>Lab Reference (Sample Number)</b>	454788						
<b>Sampling Date</b>	11/06/2015						
<b>Sample ID</b>	BH708						
<b>Depth (m)</b>	2.40-2.50						
<b>Solid Waste Analysis</b>							
TOC (%)**	1.0				3%	5%	6%
Loss on Ignition (%) **	3.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg)	17				500	--	--
Total PAH (WAC-17) (mg/kg)	2.7				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	6.7				--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		0.080	0.5	2	25
Barium *	0.077	0.058		0.60	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	0.0030		0.027	0.5	10	70
Copper *	0.0030	0.0043		0.041	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.023	0.0082		0.099	0.5	10	30
Nickel *	0.0015	0.0022		0.022	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.039	0.5	10	50
Antimony *	< 0.0050	< 0.0050		0.023	0.06	0.7	5
Selenium *	< 0.010	< 0.010		0.062	0.1	0.5	7
Zinc *	0.0020	0.0106		0.096	4	50	200
Chloride *	5.6	< 4.0		< 15	800	4000	25000
Fluoride	0.71	0.56		5.7	10	150	500
Sulphate *	170	32		490	1000	20000	50000
TDS	220	80		960	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	12	5.7		65	500	800	1000
<b>Leach Test Information</b>							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	82						
Moisture (%)	18						
<b>Stage 1</b>							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.21						

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

\* = UKAS accredited (liquid eluate analysis only)

\*\* = MCERTS accredited



**Analytical Report Number : 15-73575**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
454788	BH708	None Supplied	2.40-2.50	Brown clay and loam with gravel.

**Analytical Report Number : 15-73575**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1 ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Sociated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS



**Analytical Report Number : 15-73575**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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## **Analytical Report Number : 15-73574**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 3 soil samples

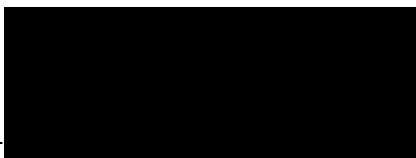
**Samples received on:** 11/06/2015

**Samples instructed on:** 12/06/2015

**Analysis completed by:** 18/06/2015

**Report issued on:** 18/06/2015

**Signed:**



Dr Claire Stone  
Quality Manager

**For & on behalf of i2 Analytical Ltd.**

**Signed:**



Colin Everett  
Senior Analyst

**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-73574

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	454785			454786			454787		
Sample Reference	BH703			BH708			BH708		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	1.90-2.10			1.80-2.00			3.50-3.70		
Date Sampled	10/06/2015			11/06/2015			11/06/2015		
Time Taken	1555			1103			1150		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	14	17	15			
Total mass of sample received	kg	0.001	NONE	1.9	1.6	2.0			

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected

**General Inorganics**

	pH Units	N/A	MCERTS	6.4	6.7	7.5
pH						
Electrical Conductivity	µS/cm	10	NONE	100	640	320
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	ISO 17025	720	1100	860
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.11	0.75	0.24
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	110	750	240
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.053	0.37	0.12
Sulphide	mg/kg	1	MCERTS	< 1.0	7.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	4.0	26	24
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	7.7	< 0.5
Organic Matter	%	0.1	MCERTS	1.5	2.2	< 0.1
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	2.9	< 2.0
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

**Speciated PAHs**

	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Naphthalene						
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	< 1.6





Analytical Report Number: 15-73574

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	454785			454786			454787		
<b>Sample Reference</b>	BH703			BH708			BH708		
<b>Sample Number</b>	None Supplied			None Supplied			None Supplied		
<b>Depth (m)</b>	1.90-2.10			1.80-2.00			3.50-3.70		
<b>Date Sampled</b>	10/06/2015			11/06/2015			11/06/2015		
<b>Time Taken</b>	1555			1103			1150		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>						

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	11000	12000	8000		
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	9.3	7.4		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	55	76		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7	0.7	0.7		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7	2.3	0.3		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	24	31		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	15	5.1		
Iron (aqua regia extractable)	mg/kg	40	MCERTS	24000	24000	25000		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	21	7.3		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	260	270	78		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.3	0.4	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	19	15		
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	410	590	260		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	38	38		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	46	53	35		

Calcium (aqua regia extractable)	mg/kg	20	NONE	3900	64000	5200		
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2100	3000	2600		
Potassium (aqua regia extractable)	mg/kg	20	NONE	2000	2500	3100		

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10		



Analytical Report Number: 15-73574

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	454785			454786			454787		
<b>Sample Reference</b>	BH703			BH708			BH708		
<b>Sample Number</b>	None Supplied			None Supplied			None Supplied		
<b>Depth (m)</b>	1.90-2.10			1.80-2.00			3.50-3.70		
<b>Date Sampled</b>	10/06/2015			11/06/2015			11/06/2015		
<b>Time Taken</b>	1555			1103			1150		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>						

<b>VOCS</b>									
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	454785	454786	454787			
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0			



Analytical Report Number: 15-73574

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	454785			454786			454787		
<b>Sample Reference</b>	BH703			BH708			BH708		
<b>Sample Number</b>	None Supplied			None Supplied			None Supplied		
<b>Depth (m)</b>	1.90-2.10			1.80-2.00			3.50-3.70		
<b>Date Sampled</b>	10/06/2015			11/06/2015			11/06/2015		
<b>Time Taken</b>	1555			1103			1150		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>						

SVOCs									
Analytical Parameter	Units	Limit of detection	Accreditation Status	454785	454786	454787			
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3			
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05			



**Analytical Report Number : 15-73574**

**Project / Site name: London Paramount Entertainment Resort**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
454785	BH703	None Supplied	1.90-2.10	Brown loam and clay with gravel.
454786	BH708	None Supplied	1.80-2.00	Grey clay and loam with gravel.
454787	BH708	None Supplied	3.50-3.70	Light brown clay and sand.



**Analytical Report Number : 15-73574**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE

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**Analytical Report Number : 15-73574**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.**



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## **Analytical Report Number : 15-73390**

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	10/06/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	11/06/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	18/06/2015
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	18/06/2015
<b>Samples Analysed:</b>	7 soil samples		

**Signed:**

Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-73390

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	453665	453666	453667	453668	453669			
Sample Reference	BH202	BH202	BH202	BH202	BH703			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	0.50	2.50	6.00	8.10	0.50			
Date Sampled	09/06/2015	09/06/2015	10/06/2015	10/06/2015	09/06/2015			
Time Taken	1300	1655	0910	1000	1510			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	52	33	40	48	10
Total mass of sample received	kg	0.001	NONE	1.5	1.1	1.4	1.6	1.7

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
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**General Inorganics**

pH	pH Units	N/A	MCERTS	7.2	10.6	12.3	10.4	7.0
Electrical Conductivity	µS/cm	10	NONE	2000	1900	14000	10000	220
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO <sub>4</sub>	mg/kg	50	ISO 17025	60000	52000	72000	31000	810
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	7.1	6.2	17	13	0.11
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	7100	6200	17000	13000	110
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	3.5	3.1	8.3	6.7	0.054
Sulphide	mg/kg	1	MCERTS	< 1.0	10	48	24	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	50	100	6500	5600	31
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	31	< 0.5	< 0.5
Organic Matter	%	0.1	MCERTS	0.3	0.6	0.6	1.3	0.3
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	14	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO <sub>3</sub>	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	14	< 5.0	< 5.0	< 5.0

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.28	0.95	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.28	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.34	0.80	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.28	0.68	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.23	0.65	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.14	0.40	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.35	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.40	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.16	0.43	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.28	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	5.7	< 1.6	< 1.6
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Analytical Report Number: 15-73390

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	453665	453666	453667	453668	453669
Sample Reference	BH202	BH202	BH202	BH202	BH703
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	2.50	6.00	8.10	0.50
Date Sampled	09/06/2015	09/06/2015	10/06/2015	10/06/2015	09/06/2015
Time Taken	1300	1655	0910	1000	1510
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**Heavy Metals / Metalloids**

Aluminium (aqua regia extractable)	mg/kg	30	NONE	14000	16000	12000	27000	8500
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.8	2.8	4.0	3.4	1.1
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.3	16	110	19	8.6
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	110	40	260	56
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7	0.8	0.3	2.0	0.6
Boron (water soluble)	mg/kg	0.2	MCERTS	8.1	3.7	1.3	13	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.9	4.2	9.4	8.5	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	31	23	26	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	47	52	89	14
Iron (aqua regia extractable)	mg/kg	40	MCERTS	16000	13000	16000	13000	23000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	74	140	660	280	16
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	240	250	170	270	310
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.0	0.4	2.3	1.6	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	16	14	38	19
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	1000	730	400	680	410
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	9.5	5.6	9.8	9.8	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	100	39	53	120	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	56	140	210	220	36

Calcium (aqua regia extractable)	mg/kg	20	NONE	450000	450000	460000	400000	36000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	5100	4500	2800	19000	2900
Potassium (aqua regia extractable)	mg/kg	20	NONE	3600	7700	29000	33000	2000

**Monoaromatics**

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	17	< 8.0	< 8.0	12	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	17	< 10	< 10	12	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 15-73390

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	453665	453666	453667	453668	453669
Sample Reference	BH202	BH202	BH202	BH202	BH703
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	2.50	6.00	8.10	0.50
Date Sampled	09/06/2015	09/06/2015	10/06/2015	10/06/2015	09/06/2015
Time Taken	1300	1655	0910	1000	1510
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

**VOCs**

Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 15-73390

Project / Site name: London Paramount Entertainment Resort

Lab Sample Number	453665	453666	453667	453668	453669
Sample Reference	BH202	BH202	BH202	BH202	BH703
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	2.50	6.00	8.10	0.50
Date Sampled	09/06/2015	09/06/2015	10/06/2015	10/06/2015	09/06/2015
Time Taken	1300	1655	0910	1000	1510
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.28	0.95	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.28	< 0.10	< 0.10
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.34	0.80	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	0.28	0.68	< 0.10	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.23	0.65	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.14	0.40	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.35	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.40	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.16	0.43	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.28	< 0.05	< 0.05

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Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				453670	453671			
<b>Sample Reference</b>				BH707	BH708			
<b>Sample Number</b>				None Supplied	None Supplied			
<b>Depth (m)</b>				1.00	0.50-0.70			
<b>Date Sampled</b>				10/06/2015	10/06/2015			
<b>Time Taken</b>				1214	1214			
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	13	5.5			
Total mass of sample received	kg	0.001	NONE	1.6	1.7			

<b>Asbestos in Soil</b>	<b>Type</b>	<b>N/A</b>	<b>ISO 17025</b>	<b>Not-detected</b>	<b>Not-detected</b>			
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**General Inorganics**

pH	pH Units	N/A	MCERTS	7.6	7.5			
Electrical Conductivity	µS/cm	10	NONE	200	720			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Complex Cyanide	mg/kg	1	NONE	< 1	< 1			
Free Cyanide	mg/kg	1	NONE	< 1	< 1			
Total Sulphate as SO <sub>4</sub>	mg/kg	50	ISO 17025	850	1400			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.11	0.89			
Water Soluble Sulphate as SO <sub>4</sub> (2:1)	mg/kg	2.5	MCERTS	110	890			
Water Soluble SO <sub>4</sub> (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.054	0.44			
Sulphide	mg/kg	1	MCERTS	3.3	1.8			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	14	14			
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5			
Organic Matter	%	0.1	MCERTS	1.3	1.4			
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0			
Water Soluble Nitrate (2:1) as NO <sub>3</sub>	mg/kg	10	NONE	< 10	< 10			
Water Soluble Nitrite (2:1) as N	µg/kg	20	NONE	< 20	< 20			
Total Oxidised Nitrogen (TON)	mg/kg	5	NONE	< 5.0	< 5.0			

**Total Phenols**

<b>Total Phenols (monohydric)</b>	<b>mg/kg</b>	<b>1</b>	<b>MCERTS</b>	<b>&lt; 1.0</b>	<b>&lt; 1.0</b>			
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.16			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	0.12			
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Phenanthrene	mg/kg	0.1	MCERTS	0.34	1.5			
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.33			
Fluoranthene	mg/kg	0.1	MCERTS	0.77	1.5			
Pyrene	mg/kg	0.1	MCERTS	0.70	1.2			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.48	0.66			
Chrysene	mg/kg	0.05	MCERTS	0.49	0.63			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.49	0.38			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.28	0.49			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.42	0.41			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.29	0.28			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.40	0.42			
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05			

**Total PAH**

<b>Total WAC-17 PAHs</b>	<b>mg/kg</b>	<b>1.6</b>	<b>NONE</b>	<b>4.7</b>	<b>8.1</b>			
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Project / Site name: London Paramount Entertainment Resort

Lab Sample Number				453670	453671			
Sample Reference				BH707	BH708			
Sample Number				None Supplied	None Supplied			
Depth (m)				1.00	0.50-0.70			
Date Sampled				10/06/2015	10/06/2015			
Time Taken				1214	1214			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Heavy Metals / Metalloids</b>								
Aluminium (aqua regia extractable)	mg/kg	30	NONE	6900	7800			
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.4	1.2			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	7.6			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	91	47			
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.6	0.7			
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	21			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	13			
Iron (aqua regia extractable)	mg/kg	40	MCERTS	17000	20000			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	22	17			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	260	230			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.3	0.6			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	19			
Phosphorus (aqua regia extractable)	mg/kg	20	NONE	440	880			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	31			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	41	38			
Calcium (aqua regia extractable)	mg/kg	20	NONE	93000	45000			
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2800	2200			
Potassium (aqua regia extractable)	mg/kg	20	NONE	1700	1800			
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
<b>Petroleum Hydrocarbons</b>								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0			
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10			
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10			

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Lab Sample Number				453670	453671			
Sample Reference				BH707	BH708			
Sample Number				None Supplied	None Supplied			
Depth (m)				1.00	0.50-0.70			
Date Sampled				10/06/2015	10/06/2015			
Time Taken				1214	1214			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>VOCs</b>								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0			
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0			
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0			

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Lab Sample Number				453670	453671			
Sample Reference				BH707	BH708			
Sample Number				None Supplied	None Supplied			
Depth (m)				1.00	0.50-0.70			
Date Sampled				10/06/2015	10/06/2015			
Time Taken				1214	1214			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>SVOCs</b>								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.16			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	0.12			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Phenanthrene	mg/kg	0.1	MCERTS	0.34	1.5			
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.33			
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Fluoranthene	mg/kg	0.1	MCERTS	0.77	1.5			
Pyrene	mg/kg	0.1	MCERTS	0.70	1.2			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3			
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.48	0.66			
Chrysene	mg/kg	0.05	MCERTS	0.49	0.63			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.49	0.38			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.28	0.49			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.42	0.41			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.29	0.28			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.40	0.42			

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
453665	BH202	None Supplied	0.50	Beige sandy clay with gravel.
453666	BH202	None Supplied	2.50	Beige sandy clay.
453667	BH202	None Supplied	6.00	Light grey clay and sand.
453668	BH202	None Supplied	8.10	Black clay and sand with chalk.
453669	BH703	None Supplied	0.50	Light brown loam with vegetation.
453670	BH707	None Supplied	1.00	Brown loam and sand with chalk.
453671	BH708	None Supplied	0.50-0.70	Brown sandy loam with gravel and vegetation.



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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by addition of saturated calcium sulphate followed by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

**Analytical Report Number : 15-73390**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total oxidised nitrogen in soil	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton		D	NONE
Total sulphate (as SO <sub>4</sub> in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by with 4-aminobenzene sulphonamide reagent in the presence of orthophosphoric acid at pH 1.9 to form a	In-house method based on ISO:EN 26777:1993 nitrite.	L078-PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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## **Analytical Report Number : 15-80823**

Replaces Analytical Report Number : 15-80823, issue no. 1

<b>Project / Site name:</b>	London Paramount Entertainment Resort	<b>Samples received on:</b>	19/10/2015
<b>Your job number:</b>	30766	<b>Samples instructed on:</b>	19/10/2015
<b>Your order number:</b>		<b>Analysis completed by:</b>	26/10/2015
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	25/11/2015
<b>Samples Analysed:</b>	3 water samples		

**Signed:**

Dr Irma Doyle  
Assistant Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.



Analytical Report Number: 15-80823

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	497122	497123	497124		
<b>Sample Reference</b>	WS101	WS102	WS202		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	3.88	3.96	6.02		
<b>Date Sampled</b>	14/10/2015	14/10/2015	14/10/2015		
<b>Time Taken</b>	1130	1200	1230		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**General Inorganics**

pH	pH Units	N/A	ISO 17025	7.6	13.0	13.2		
Electrical Conductivity	µS/cm	10	NONE	120000	33000	51000		
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10		
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	14000000	1760000	15000000		
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0		
Chloride	mg/l	0.15	ISO 17025	31000	3800	4800		
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	420000	5800	26000		
Nitrate as N	mg/l	0.01	ISO 17025	1.07	0.19	0.26		
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	4.75	0.84	1.15		
Nitrite as N	µg/l	1	ISO 17025	21	290	860		
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	69	950	2800		
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	400	140	220		
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	11	< 1.0	< 1.0		
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	1.1	0.5	1.1		

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	1000		
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2		
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2		



Analytical Report Number: 15-80823

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>		497122	497123	497124		
<b>Sample Reference</b>		WS101	WS102	WS202		
<b>Sample Number</b>		None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>		3.88	3.96	6.02		
<b>Date Sampled</b>		14/10/2015	14/10/2015	14/10/2015		
<b>Time Taken</b>		1130	1200	1230		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>			

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	1.55	16.4	1.77	
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	7.4	3.5	
Arsenic (dissolved)	µg/l	0.15	ISO 17025	21.4	27.3	15.4	
Barium (dissolved)	µg/l	0.06	ISO 17025	66	28	15	
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	
Boron (dissolved)	µg/l	10	ISO 17025	850	14	34	
Cadmium (dissolved)	µg/l	0.02	ISO 17025	3.6	< 0.02	0.12	
Chromium (hexavalent)	µg/l	5	ISO 17025	< 40**	< 5.0	1600*	
Chromium (dissolved)	µg/l	0.2	ISO 17025	19	13	1300*	
Copper (dissolved)	µg/l	0.5	ISO 17025	12	67	19	
Iron (dissolved)	mg/l	0.004	ISO 17025	0.92	0.15	0.17	
Lead (dissolved)	µg/l	0.2	ISO 17025	19	26	5.2	
Manganese (dissolved)	µg/l	0.05	ISO 17025	120	4.6	4.0	
Mercury (dissolved)	µg/l	0.05	ISO 17025	1.68	< 0.05	0.81	
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	0.44	96	360	
Nickel (dissolved)	µg/l	0.5	ISO 17025	16	6.4	140	
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.3	59	510	
Vanadium (dissolved)	µg/l	0.2	ISO 17025	28	68	65	
Zinc (dissolved)	µg/l	0.5	ISO 17025	19	10	< 0.5	

Calcium (dissolved)	mg/l	0.012	ISO 17025	250	10	61	
Magnesium (dissolved)	mg/l	0.005	ISO 17025	340	< 0.005	< 0.005	
Potassium (dissolved)	mg/l	0.025	ISO 17025	23000	6800	18000	
Phosphorus (total)	µg/l	20	ISO 17025	43000	32	53	

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10	



Analytical Report Number: 15-80823

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				497122	497123	497124		
<b>Sample Reference</b>				WS101	WS102	WS202		
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>				3.88	3.96	6.02		
<b>Date Sampled</b>				14/10/2015	14/10/2015	14/10/2015		
<b>Time Taken</b>				1130	1200	1230		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**VOCs**

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		



Analytical Report Number: 15-80823

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	497122	497123	497124		
<b>Sample Reference</b>	WS101	WS102	WS202		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	3.88	3.96	6.02		
<b>Date Sampled</b>	14/10/2015	14/10/2015	14/10/2015		
<b>Time Taken</b>	1130	1200	1230		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs						
Analytical Parameter	Units	Limit of detection	Accreditation Status	497122	497123	497124
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample

\*\*Raised LOD due to colour interference.

\*Discrepancies between the total and hexavalent chromium due to method differences.



**Analytical Report Number : 15-80823**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025





**Analytical Report Number : 15-80823**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



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**Analytical Report Number : 15-80991**

**Project / Site name:** London Paramount Entertainment Resort

**Your job number:** 30766

**Your order number:**

**Report Issue Number:** 1

**Samples Analysed:** 3 water samples

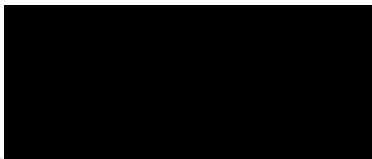
**Samples received on:** 21/10/2015

**Samples instructed on:** 21/10/2015

**Analysis completed by:** 29/10/2015

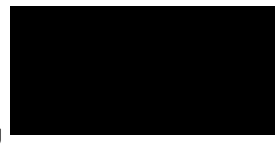
**Report issued on:** 29/10/2015

**Signed:**



Rexona Rahman  
Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

**Sig**



Emma Winter  
Assistant Reporting Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

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Analytical Report Number: 15-80991

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				498036	498037	498038		
<b>Sample Reference</b>				WS101	WS102	WS202		
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>				3.88	3.97	8.09		
<b>Date Sampled</b>				21/10/2015	21/10/2015	21/10/2015		
<b>Time Taken</b>				1100	1100	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**General Inorganics**

pH	pH Units	N/A	ISO 17025	7.7	13.0	13.2		
Electrical Conductivity	µS/cm	10	NONE	16000	24000	26000		
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Complex Cyanide	µg/l	10	NONE	< 10	< 10	< 10		
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Sulphate as SO <sub>4</sub>	µg/l	45	ISO 17025	13000000	2220000	16000000		
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0		
Chloride	mg/l	0.15	ISO 17025	33000	4100	5500		
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	460000	6300	30000		
Nitrate as N	mg/l	0.01	ISO 17025	0.88	0.14	0.24		
Nitrate as NO <sub>3</sub>	mg/l	0.05	ISO 17025	3.92	0.63	1.04		
Nitrite as N	µg/l	1	ISO 17025	18	330	960		
Nitrite as NO <sub>2</sub>	µg/l	5	ISO 17025	59	1100	3100		
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	610	200	420		
BOD (Biochemical Oxygen Demand)	mg/l	1	ISO 17025	8.5	< 1.0	1.6		
Total Oxidised Nitrogen (TON)	mg/l	0.3	NONE	0.9	0.5	1.2		

**Total Phenols**

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	22	970		
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**Speciated PAHs**

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01		
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		

**Total PAH**

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2		
Total WAC-17 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2		



Analytical Report Number: 15-80991

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				498036	498037	498038		
<b>Sample Reference</b>				WS101	WS102	WS202		
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>				3.88	3.97	8.09		
<b>Date Sampled</b>				21/10/2015	21/10/2015	21/10/2015		
<b>Time Taken</b>				1100	1100	1100		
<b>Analytical Parameter (Water Analysis)</b>				<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**Heavy Metals / Metalloids**

Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.211	19.4	0.432		
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	1.9	0.8		
Arsenic (dissolved)	µg/l	0.15	ISO 17025	34.4	23.6	11.0		
Barium (dissolved)	µg/l	0.06	ISO 17025	42	26	14		
Beryllium (dissolved)	µg/l	0.1	ISO 17025	0.1	< 0.1	< 0.1		
Boron (dissolved)	µg/l	10	ISO 17025	710	28	33		
Cadmium (dissolved)	µg/l	0.02	ISO 17025	3.2	0.08	0.08		
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	1600**		
Chromium (dissolved)	µg/l	0.2	ISO 17025	17	16	1200**		
Copper (dissolved)	µg/l	0.5	ISO 17025	13	64	19		
Iron (dissolved)	mg/l	0.004	ISO 17025	0.26	0.086	0.027		
Lead (dissolved)	µg/l	0.2	ISO 17025	5.9	51	1.6		
Manganese (dissolved)	µg/l	0.05	ISO 17025	110	1.1	0.45		
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	1.17	< 0.05		
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.7	120	350		
Nickel (dissolved)	µg/l	0.5	ISO 17025	15	7.8	150		
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.9	230	610		
Vanadium (dissolved)	µg/l	0.2	ISO 17025	23	76	64		
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.8	9.8	< 0.5		

Calcium (dissolved)	mg/l	0.012	ISO 17025	220	7.8	27		
Magnesium (dissolved)	mg/l	0.005	ISO 17025	120	< 0.005	< 0.005		
Potassium (dissolved)	mg/l	0.025	ISO 17025	13000	5600	16000		
Phosphorus (total)	µg/l	20	ISO 17025	58000	460	26		



Analytical Report Number: 15-80991

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>				498036	498037	498038		
<b>Sample Reference</b>				WS101	WS102	WS202		
<b>Sample Number</b>				None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>				3.88	3.97	8.09		
<b>Date Sampled</b>				21/10/2015	21/10/2015	21/10/2015		
<b>Time Taken</b>				1100	1100	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Monoaromatics**

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0		

**Petroleum Hydrocarbons**

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
<b>TPH-CWG - Aliphatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10		

TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
<b>TPH-CWG - Aromatic (C5 - C35)</b>	µg/l	10	NONE	< 10	< 10	< 10		



Analytical Report Number: 15-80991

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	498036	498037	498038		
<b>Sample Reference</b>	WS101	WS102	WS202		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	3.88	3.97	8.09		
<b>Date Sampled</b>	21/10/2015	21/10/2015	21/10/2015		
<b>Time Taken</b>	1100	1100	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

**VOCs**

Compound	Units	Limit of detection	Accreditation Status	498036	498037	498038
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0



Analytical Report Number: 15-80991

Project / Site name: London Paramount Entertainment Resort

<b>Lab Sample Number</b>	498036	498037	498038		
<b>Sample Reference</b>	WS101	WS102	WS202		
<b>Sample Number</b>	None Supplied	None Supplied	None Supplied		
<b>Depth (m)</b>	3.88	3.97	8.09		
<b>Date Sampled</b>	21/10/2015	21/10/2015	21/10/2015		
<b>Time Taken</b>	1100	1100	1100		
<b>Analytical Parameter (Water Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>		

SVOCs						
Analytical Parameter	Units	Limit of detection	Accreditation Status	498036	498037	498038
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	1.0
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample

\*\*The dissolved chromium and hexavalent chromium analysis has been repeated but the results remain contrary.

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**Analytical Report Number : 15-80991**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Biological oxygen demand of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B. Samples received > 24 hrs after sampling, data may not be valid and should be interpreted with care.	L086-PL	W	ISO 17025
Boron in water	Determination of boron by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

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**Analytical Report Number : 15-80991**

**Project / Site name: London Paramount Entertainment Resort**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073W-PL	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**