TECHNICAL NOTE

Hydrock

Project name	Wroughton Closed Landfill		
Title	Supplementary Ground Investigation		
Document reference	02753-HYD-XX-XX-TN-GE-1001	Status / Revision	S2 P02
Client	The Hills Group Ltd.		
Authors	Matt Wincott BSc (Hons) MSc FGS Matthew Keehn BSc (Hons) CEnv MIEnvSc		
Date	11 August 2022	Approved	✓

1. INTRODUCTION

In June 2022, Hydrock Consultants Ltd. (Hydrock) were commissioned by The Hills Group Ltd. (the Client) to undertake a supplementary ground investigation to support the proposed development of the Wroughton Closed Landfill (the 'site'). The site is located in the large village of Wroughton, near Swindon and comprises:

- a closed landfill in the north (hereafter referred to as the 'Former Landfill Area'); and
- two undeveloped fields in the south (hereafter referred to as the 'Greenfield Area').

A Site Location Plan (Ref: 11229-G016 (Rev C), dated 5 May 2022) is presented in Annex A.

The proposed development is presented on the Proposed Site Layout Plan (Ref: 50467 P1-01 [Rev L], dated 4 February 2022) in Annex A and comprises residential housing, public open space (POS), including a cricket pitch and a pavilion, supporting infrastructure, and a new access road off the A4361 Swindon Road to the east.

The works detailed herein have been undertaken in accordance with Hydrock's Fee Proposal (Ref: 02753-GSWB-E-0001, dated 8 June 2022) and the Client's emailed instruction to proceed (dated 8 June 2022). The works are purely geo-environmentally focused and do not include geotechnical investigation, assessment, or advice.

1.1 Background

During an on site meeting on 7 June 2022, which included Swindon Borough Council's (SBC) Contaminated Land Officer and Senior Landscape Architect, the requirement for supplementary ground investigation works was raised to strengthen the Ground Model and understanding of shallow ground conditions across the footprint of the Former Landfill Area of the site.

Multiple phases of ground investigation have been undertaken at the site over the period 2008 to 2019. The findings are detailed in the Hydrock Updated Ground Conditions report (Ref: R/11229/003/03 [P03], dated 27 April 2020) (hereafter referred to as the 'Hydrock 2020 Report'). The interpreted shallow ground conditions encountered across the Former Landfill Area to date are summarised below.

- **Topsoil:** comprising sandy organic clay encountered to a maximum depth of 0.4 m below ground level (bgl); overlying
- **Capping Layer:** a cohesive landfill cap predominant comprising silty clay with occasional brick and concrete encountered to a maximum depth of 2.3 m bgl; overlying
- **Waste Deposits:** comprising several different waste streams grouped as 'Recent Construction Waste' (deposited post-1974 and up until license surrender in the early-1990s) overlying 'Pits Backfill' (deposited pre-1974).

The historical exploratory locations in the western portion of the Former Landfill Area completed pre-2015 did not separate the thickness of the cohesive Capping Layer on the exploratory logs. This layer has subsequently been interpreted to be present across the proposed residential development in the east, whereas historically it was typically grouped as part of the underlying Recent Construction Waste deposits.

SBC would like further confidence that both topsoil and the cohesive Capping Layer are also present across the western portion of the site that is proposed for POS, notably along the perimeter slopes of the domed topography (i.e., the layers do not recede and disappear towards the base of the slopes). An extensive landscaping and planting scheme is proposed across the POS area of the proposed development, and SBC wish to understand that the earthworks proposals do not represent a significant risk to human health and plant life, and can also support growth of the proposed landscaping.

1.2 Objectives and scope

The objective of the supplementary ground investigation is to refine the Ground Model across the Former Landfill Area, specifically with regard to the shallow ground conditions and thicknesses of topsoil and Capping Layer in the POS areas of the proposed development. The works are being undertaken in support of the relevant planning applications for the proposed development.

The scope of the intrusive supplementary ground investigation comprises:

- 3-days of mechanical trial pitting;
- logging and characterisation of encountered ground conditions; and
- soil sampling for laboratory analysis.

1.3 Available information

It is assumed that the reader has knowledge of the ground conditions as detailed in the Hydrock 2020 Report. Relevant summarises are provided within this technical note, where appropriate, however, the full report should be read in conjunction.

The data presented within the Hydrock 2020 Report have been used as part of the risk assessments detailed within this technical note, wherever appropriate, including the historical exploratory logs, analytical data, etc.

2. SUPPLEMENTARY GROUND INVESTIGAITON

The intrusive site works were undertaken on 27 and 28 June, and also on 4 July 2022. A total of 20 trial pits were mechanically excavated using a JCB 3CX to depths between 0.45 m and 1.95 m bgl. The exploratory locations were surveyed using a topographic survey quality GPS and are presented on the enclosed Exploratory Hole Location Plan (Ref: 02753-HYD-XX-XX-DR-GE-1003 [P02], dated 19 July 2022) in Annex A.

2.1 Physical ground conditions

The topsoil and Capping Layer were encountered during the supplementary ground investigation to depths ranging between 0.1 m and 0.2 m bgl (topsoil), and 0.3 m and 1.2 m bgl (Capping Layer). Full details are presented on the enclosed exploratory logs, and also in the accompanying photographs (both in Annex B).

The ground conditions encountered during the supplementary ground investigation have been collated with the historical information from across the entirety of Former Landfill Area for completeness (i.e., all previous phases of ground investigation undertaken to date and detailed the Hydrock 2020 Report). The updated Ground Model is presented in Table 2.1. Further information, including descriptions of the individual strata encountered during the supplementary ground investigation is provided in the following subsections.

Table 2.1 Summary of ground conditions from across the Former Landfill Area (all available data)

Stratum		Depth to top (m bgl) (range)	Depth to base (m bgl) (range)	Thickness (m) (range)*	Thickness (m) (average)
Topsoil		0.0 - 0.0	0.05 - 0.4	0.05 - 0.4	0.2
Capping Layer		0.05 - 0.4	0.3 - 2.4	0.2 - 2.3	0.8
Recent Construction Waste		0.05 - 1.5	0.45 - 6.8	0.8 - 5.6	2.8
Pits Backfill	Landfill Waste	0.15 - 5.5	1.45 - 10	0.55 - 8	3.7
	Reworked Site-Won Material	2.2 - 6.2	3.5 - 7.1	0.6 - 1.5	1.0
Kimmeridge Clay Formation		0.8 - 10.0	3.0 - 13.0	Not proven	Not proven

Notes:
* = only for exploratory locations where depth to base has been proven.

2.1.1 Topsoil

Topsoil has been encountered across the footprint of the Former Landfill Area to depths of between 0.05 m and 0.4 m bgl (based on all available data), with the exception of the asphalt access track in the southeast (historical exploratory location TP10 only).

During the supplementary ground investigation, the topsoil encountered around the perimeter of the Former Landfill Area typically comprised a dark brown sandy gravelly clay with abundant rootlets, which is consistent with the typical descriptions from the historical ground investigation of sandy clay. The gravel fraction predominantly comprised flint, and brick and concrete fragments were also occasionally encountered within the material. Rare cobbles of concrete have also historically been observed near the surface.

The spatial distribution of the encountered depths and thicknesses of topsoil across the site to date is presented on the Topsoil and Capping Layer Thickness drawing (Ref: 02753-HYD-XX-XX-DR-GE-1009, dated 25 July 2022) in Annex A. The thickness of the topsoil across the Former Landfill Area is somewhat variable, with possibly the thickest material in the residential area in the east with thicknesses up to 0.3 m and 0.4 m, whereas across the western portion, including the perimeter slopes, thicknesses are typically up to 0.2 m to 0.25 m. However, there does not appear to be significant trend between the top and base of the sloped topography (i.e., the top is not consistently thicker than the base).

2.1.2 Capping Layer

The Capping Layer has been encountered across the footprint of the Former Landfill Area to depths of between 0.3 m and 2.4 m bgl (based on all available data).

As previously highlighted, the Capping Layer was not formally logged pre-2015 so its presence was not confirmed at all historical exploratory locations. During the supplementary ground investigation, the Capping Layer was encountered at the majority of exploratory locations around the perimeter of the Former Landfill Area (two exceptions – see below), and typically comprised brown sandy gravelly clay, which again is relatively consistent with the historical ground investigation descriptions. Occasional brick and concrete were encountered within the material, and ranged from gravel sized fragments to cobbles. Rare anthropogenic materials were also encountered, and typically comprised small fragments of metal, plastic, or wood.

The Capping Layer was not encountered at the exploratory locations TP303 and TP305 towards the base of the slope in the southwest of the Former Landfill Area. At these locations the topsoil was interpreted to directly overly the Recent Construction Waste (due to the significantly more granular/less cohesive nature of the material, which is consistent with the descriptions in Section 2.1.3). The nearby historical exploratory locations BH108 and BH109 (approximately middle and base of the slope, respectively) recorded brown slightly sandy slightly gravelly clay to depths of 5.5 m bgl. Due to the consistent and similarly cohesive descriptions, and also

the evidence from elsewhere across the area, it is considered likely that these historical locations include a thickness of Capping Layer, however, it was not separated on the logs.

The spatial distribution of the encountered depths and thicknesses of Capping Layer across the Former Landfill Area to date is presented on the Topsoil and Capping Layer Thickness drawing (Ref: 02753-HYD-XX-XX-DR-GE-1009, dated 25 July 2022) in Annex A. The Capping Layer is present as a significant thickness across the majority of area, with an average thickness of 0.8 m bgl (area-wide). The supplementary ground investigation encountered some variability around the perimeter slopes, with a slightly decreased average thickness of 0.6 m from all exploratory locations TP301 to TP320 (where identified). There is also potential variability between the top and the base of the slopes around the perimeter, with an average thickness of 0.65 m at the top and decreasing to 0.45 m at the base.

2.1.3 Recent Construction Waste

During the supplementary ground investigation, Recent Construction Waste was encountered at all exploratory locations to proven depths of between 0.45 m and 1.95 m bgl (all beneath the Capping Layer, with the exception of TP303 and TP305). The trial pits were all terminated within this material and the base was not proven at any of the exploratory locations. Proven thicknesses of the Recent Construction Waste from the historical ground investigations across the Former Landfill Area range between 0.8 m and 5.6 m.

The Recent Construction Waste was variable in composition ranging from sandy gravelly clay, through clayey gravelly sand, to cobbles, which is consistent with the variable descriptions from the historical ground investigations. The gravel fraction predominantly comprised brick and concrete with varying proportions of other anthropogenic material, including metal, plastic, and wood. Asbestos containing material (ACM) was encountered within the Recent Construction Waste at exploratory location TP312 as fragments of asbestos cement at a depth of 1.3 m bgl.

2.1.4 Exploratory location TP319

At exploratory location TP319 at the base of the perimeter slope in the northeast of the Former Landfill Area, the topsoil and Capping Layer were relatively thin (in comparison to remainder of area) at 0.1 m and 0.2 m, respectively, and included increased proportions of anthropogenic material. The topsoil and Capping Layer both included broken glass, and the Capping Layer also included other anthropogenic material consistent with the underlying Recent Construction Waste, including plastic and ceramics (see photographs in Annex B.

It is possible that the shallow Recent Construction Waste at this location has historically mixed into the overlying topsoil and Capping Layer above.

2.1.5 Other Made Ground

Other Made Ground was encountered beneath the topsoil at exploratory location TP318 at depths between 0.2 m and 0.4 m bgl. The material was encountered as a pale grey slightly clayey sandy gravel with occasional cobbles of siltstone. Due to its appearance and granular nature, it is considered possible that this material is a historical haul road for the former landfill or as part of the areas more recent use for grazing.

2.2 Visual and olfactory evidence of contamination

Visual ACM was encountered in the Recent Construction Waste at exploratory location TP312 as fragments of asbestos cement at a depth of 1.3 m bgl. Both visual ACM and asbestos fibres have also been recorded within the Recent Construction Waste as a minor constituent (typically less than 0.1%) during historical ground investigations.

Some staining was observed in exploratory locations TP308, TP309, TP313 and TP318, however, this is considered to be associated with the observed fragments of decayed wood.

No other visual or olfactory evidence of contamination was encountered during the supplementary ground investigation.

3. GEO-ENVIRONMENTAL ASSESSMENT

Representative soil samples were collected from each of the different strata and submitted for laboratory analysis. The soil samples were collected, stored and transported in general accordance with BS 10175:2011+A2:2017. The geo-environmental analyses undertaken on the samples are summarised in Table 3.1. The laboratory certificates (Ref: 22-68519, dated 8 July 2022, and 22-69534, dated 13 July 2022) are presented in Annex C.

Table 3.1 Summary of Geo-environmental testing

Determinand Suite	Topsoil	Capping Layer	Recent Construction Waste
Hydrock suite of determinands for solids, comprising: heavy metals, cyanide (total), pH, asbestos fibres, polycyclic aromatic hydrocarbons (PAH), total phenol, and fraction of organic carbon.	4	17	7

3.1 Human health risk assessment

Generic risk assessment has been undertaken in accordance with the principles of Land Contamination Risk Management (LCRM) (Environment Agency, 2021).

Firstly, the soil analytical data have been compared with published 'Generic Assessment Criteria' (GAC) that are applicable to the 'Residential with Plant Uptake' CLEA land use scenario (this is consistent with the Hydrock 2020 Report). Secondly, where the GAC are exceeded, the result has been evaluated in an authoritative review of the findings with other pertinent information to determine whether or not the exceedance is, or is not, acceptable in the site-specific circumstances.

The 'averaging area' used in this report is taken to be the entire Former Landfill Area, with the data separated into topsoil, Capping Layer and Recent Construction Waste. All available data, including from the historical ground investigations, are used as part of the dataset for each of the encountered strata. The samples from exploratory location TP319 have been assessed separately due to the identification of significant anthropogenic material at this location, including frequent broken glass (indicating possible mixture with the underlying waste).

Statistical testing is used where datasets are suitable, however, the critical issue is sample numbers. For datasets with low sample numbers, individual sample test results are compared directly with the screening values (i.e., TP319). The larger data sets are subject to statistical testing. The findings are presented on the assessment sheets in Annex D.

Health and safety risks to site development contractors and maintenance workers have not been specifically assessed and will need to be considered separately.

3.1.1 Statistical testing

In accordance with the guidance provided by the CIEH (May 2008) the 95th upper confidence level on the true mean (US_{95}) has been calculated from the sample data. Based on a US_{95} exceedance of the GAC, the pervasive chemicals of potential concern requiring further assessment are summarised in Table 3.2.

Table 3.2: Pervasive chemicals of potential concern for which further assessment is required (human health)

Chemical of potential concern	Generic criterion (mg/kg)*	Generic criterion source	No. samples	Min. (mg/kg)	Max. (mg/kg)	US_{95} (mg/kg)	No. samples exceeding generic criterion
Topsoil							
No exceedances of the US_{95}.							
Capping Layer							
Benzo(a)pyrene	1.5	LQM/CIEH + CLEA 1.07	25	<0.05	5.3	1.7	3
Recent Construction Waste							
Lead	200	C4SL	19	5.9	990	313.8	1
Benz(a)anthracene	6.7	LQM/CIEH + CLEA 1.07	19	0.05	48	15.5	3
Benzo(a)pyrene	1.5	LQM/CIEH + CLEA 1.07	19	0.05	40	13.7	7
Benzo(b)fluoranthene	9.4	LQM/CIEH + CLEA 1.07	19	0.05	55	17.8	2
Chrysene	11	LQM/CIEH + CLEA 1.07	19	0.05	56	17.5	1
Dibenz(a,h)anthracene	1.3	LQM/CIEH + CLEA 1.07	19	0.04	5.3	2.3	2
Indeno(1,2,3,cd)pyrene	5.5	LQM/CIEH + CLEA 1.07	19	0.05	26	8.4	2

3.1.2 Without statistical testing (TP319)

The laboratory data from TP319 have not undergone statistical testing. Based on individual test results that exceed the GAC, the chemicals of potential concern requiring further assessment are summarised in Table 3.3.

Table 3.3 Contaminants of potential concern for which further assessment is required (human health) (TP319)

Chemical of potential concern	Generic criterion (mg/kg)	Generic criterion source	No. samples	Concentration (mg/kg)	Exceeding generic criterion (Y/N)
Topsoil (TP319)					
Benzo(a)pyrene	1.5	LQM/CIEH + CLEA 1.07	1	7.4	Yes
Dibenz(a,h)anthracene	1.3	LQM/CIEH + CLEA 1.07	1	4.2	Yes
Capping Layer (TP319)					
Benzo(a)pyrene	1.5	LQM/CIEH + CLEA 1.07	1	2.5	Yes
Dibenz(a,h)anthracene	1.3	LQM/CIEH + CLEA 1.07	1	1.9	Yes

3.1.3 Asbestos

Visual ACM was encountered in the Recent Construction Waste at exploratory location TP312 as fragments of asbestos cement at a depth of 1.3 m bgl. Asbestos fibres were recorded within the soil at this depth and quantified by the laboratory at a concentration of <0.001% (chrysotile).

3.1.4 Risk evaluation

The topsoil across the Former Landfill Area does not contain pervasive contaminants of concern with respect to human health and, therefore, the material does not require further consideration.

The Capping Layer recorded a marginal US_{95} exceedance of the GAC for benzo(a)pyrene at a concentration of 1.7 mg/kg against a GAC of 1.5 mg/kg. This is considered to be a marginal exceedance that results from only three individual exceedances out of 25 samples. In addition, the US_{95} of 1.7 mg/kg is significantly below the C4SL for benzo(a)pyrene (5 mg/kg). Whilst the original GAC used in the assessment represents minimal risk, the C4SL represents a low level of risk but is still highly protective of human health. Hydrock consider that the C4SL is likely to indicate suitability of use for the Capping Layer. In addition, the US_{95} also does not exceed the GAC for the POS (park) CLEA land use scenario (4.5 mg/kg), which is also applicable for the POS area in the west.

The Recent Construction Waste has recorded several significant US_{95} exceedances of the GAC, notably benzo(a)pyrene at a concentration of 13.7 mg/kg. In addition, visual ACM and asbestos fibres have been encountered within the material. This represents an unacceptable level of risk with respect to human health for the proposed development. The most suitable form of mitigation is a clean cover system. Across the Former Landfill Area, the average thickness of Capping Layer is 0.8 m (reducing to an average of 0.45 m at the base of the perimeter slopes), therefore, when combined with the average 0.2 m of topsoil, a significant thickness of suitable cover is currently in place. The cover is currently required to be a minimum of 300 mm following the license surrender in the early-1990s. Any earthworks as part of the proposed development will need to maintain a significant cover thickness over the Recent Construction Waste, as well as the Landfill Waste and Reworked Site-Won Material.

The soils in the vicinity of exploratory location TP319 contain significant deleterious materials, notably broken glass. In addition, the topsoil and Capping Layer have recorded individual exceedances of the GAC for benzo(a)pyrene and dibenz(a,h)anthracene. It is considered likely that the underlying shallow Recent Construction Waste has historically mixed with the overlying materials at this location. The deleterious materials (and GAC exceedances) represent an unacceptable level of risk for the proposed development. The most suitable form of mitigation would be the delineation of the shallow materials and reinstatement of clean cover at this location.

3.2 Plant life risk assessment

Priority phytotoxic chemical concentrations have been screened against published values to determine the likely risk to plant growth. The findings are presented on the assessment sheets in Annex D. Again, statistical testing is used where data sets are suitable, otherwise individual sample test results are compared directly with the screening values.

3.2.1 Statistical testing

Based on a US_{95} exceedance of the GAC, the pervasive chemicals of potential concern requiring further assessment are summarised in Table 3.2.

Table 3.4: Pervasive chemicals of potential concern for which further assessment is required (risk to plants)

Chemical of potential concern	Generic criterion (mg/kg)*	Generic criterion source	No. samples	Min. (mg/kg)	Max. (mg/kg)	US_{95} (mg/kg)	No. samples exceeding generic criterion
Topsoil							
No exceedances of the US_{95}.							
Capping Layer							
No exceedances of the US_{95}.							
Recent Construction Waste							
Boron	3	New Zealand timber 1997	19	<0.2	7.6	4.0	4

3.2.2 Without statistical testing (TP319)

The laboratory data from TP319 have not undergone statistical testing. Based on individual test results that exceed the GAC, the chemicals of potential concern requiring further assessment are summarised in Table 3.3.

Table 3.5 Contaminants of potential concern for which further assessment is required (risk to plants) (TP319)

Chemical of potential concern	Generic criterion (mg/kg)	Generic criterion source	No. samples	Concentration (mg/kg)	Exceeding generic criterion (Y/N)
Topsoil (TP319)					
No exceedances.					
Capping Layer (TP319)					
Benzo(a)pyrene	3	New Zealand timber 1997	1	4	Yes

3.2.3 Risk evaluation

The topsoil and Capping Layer across the Former Landfill Area do not contain pervasive contaminants of concern with respect to plant life and, therefore, the materials do not require further consideration.

The Recent Construction Waste has recorded a marginal US_{95} exceedance of the GAC for boron at a concentration of 4.0 against a GAC of 3 mg/kg. This is considered to be a marginal exceedance that is caused by four individual exceedances from considerable depths (i.e., >2.0 m bgl) that raise the US_{95} above the GAC. Detriment to plant life is difficult to quantify as many of the GAC are based on agricultural crop yields rather than harm to particular plant species (the GAC for boron is based on New Zealand timber). The average thicknesses of overlying topsoil and Capping Layer across the Former Landfill Area are 0.2 m and 0.8 m, respectively. In addition, when all available data for the top 1.3 m of the existing ground conditions across the Former Landfill Area are assessed (i.e., the Capping Layer and upper shallow Recent Construction Waste) no US_{95} exceedances with respect to plant life are recorded (the additional assessment sheet is presented in Annex D. Therefore, a significant thickness of suitable cover is currently in place. Furthermore, the vegetation around the perimeter of the Former Landfill Area (where there is potential for a decreased average Capping Layer thickness– see Section 2.1) did not appear to show any signs of physical distress.

The exceedance of boron could indicate that mitigation is required, however, the human health risk assessment has identified the requirement for a clean cover system, which will ensure that a minimum sufficient thickness of clean cover is maintained across the different development areas of the Former Landfill Area and will help to negate any risks to plant life.

A landscape architect should also review the findings of the supplementary ground investigation with respect to plant life to ensure the proposed landscaping and planting scheme is appropriate (i.e., to determine appropriate species for planting, whether tree pits are required for larger species, and the associated design of the tree pits, if required, etc.).

4. DISCUSSION

The risk assessments undertaken as part of the supplementary ground investigation have identified the topsoil and Capping Layer to be chemically suitable for use with respect to both human health and plant life.

The topsoil has occasional brick and concrete fragments, and cobbles have historically been observed near the surface. As part of the proposed development, the topsoil will require stripping – likely from across the entire development platform – and should be stockpiled for future reuse. Hydrock consider that the oversize (cobbles, etc.) should be screened and removed from the topsoil material during the site strip/ prior to reuse.

During the site strip, the shallow ground conditions in the vicinity of exploratory location TP319 that have been identified to contain deleterious materials should be delineated and segregated.

The Capping Layer has been identified at an average thickness of 0.8 m across the Former Landfill Area, with a potential decrease in thickness around the perimeter slopes (to an average thickness of 0.65 m at the top and decreasing to 0.45 m at the base). Therefore, a significant thickness of suitable cover exists across the Former Landfill Area. Following surrender of the license in the early 1990s, the cover was required to be a minimum of 300 mm across its footprint. Furthermore, when the upper 1.3 m of existing soils are statistically assessed as one dataset – i.e., including the shallow Recent Construction Waste – the materials are still chemically suitable.

A significant cut and fill exercise will be required to create a suitable development platform for the residential area in the east and the POS area in the west. As part of the earthworks, mitigation measures to ensure the protection of both human health and plant life should be installed/reinstated. The relevant mitigation proposals currently being discussed with the regulatory authorities include:

- the installation of an engineered clean cover system across the residential footprint in the east of the Former Landfill Area, comprising a minimum thickness of 1,000 mm (combined topsoil and subsoil) and a suitable base geofabric separation layer; and
- the reinstatement of a minimum 300 mm clean cover across the POS area in the west of the Former Landfill Area.

The outfield of the cricket pitch requires a cut and fill exercise to create a relatively flat development platform. The current proposals require cut and reinstatement of 600 m, including the drainage layer. In addition, the wicket area of the cricket pitch (approximately 33 m by 21 m) will require design by a specialist, which will be undertaken in accordance with an appropriate specification such as Sports England. Therefore, the thickness of cover across the entirety of the cricket pitch wicket and outfield) will be significantly greater than the proposed minimum 300 mm of reinstatement once specified thicknesses of soils and drainage layers etc. are accounted for. In addition, a significant thickness of Capping Layer will still likely be present beneath the cricket pitch post-construction as this layer has been encountered to depths of between 1.1 m to 1.8 m bgl across its footprint.

Outside of the cricket pitch, the remainder of the POS area is proposed for amenity grass, mown paths for walking, and planting of new trees and woodland. Based on the significant thickness of Capping Layer that is already present across the area, the proposed reinstatement of the minimum 300 mm cover system across the POS area, is considered appropriate based on the intended land use scenario.

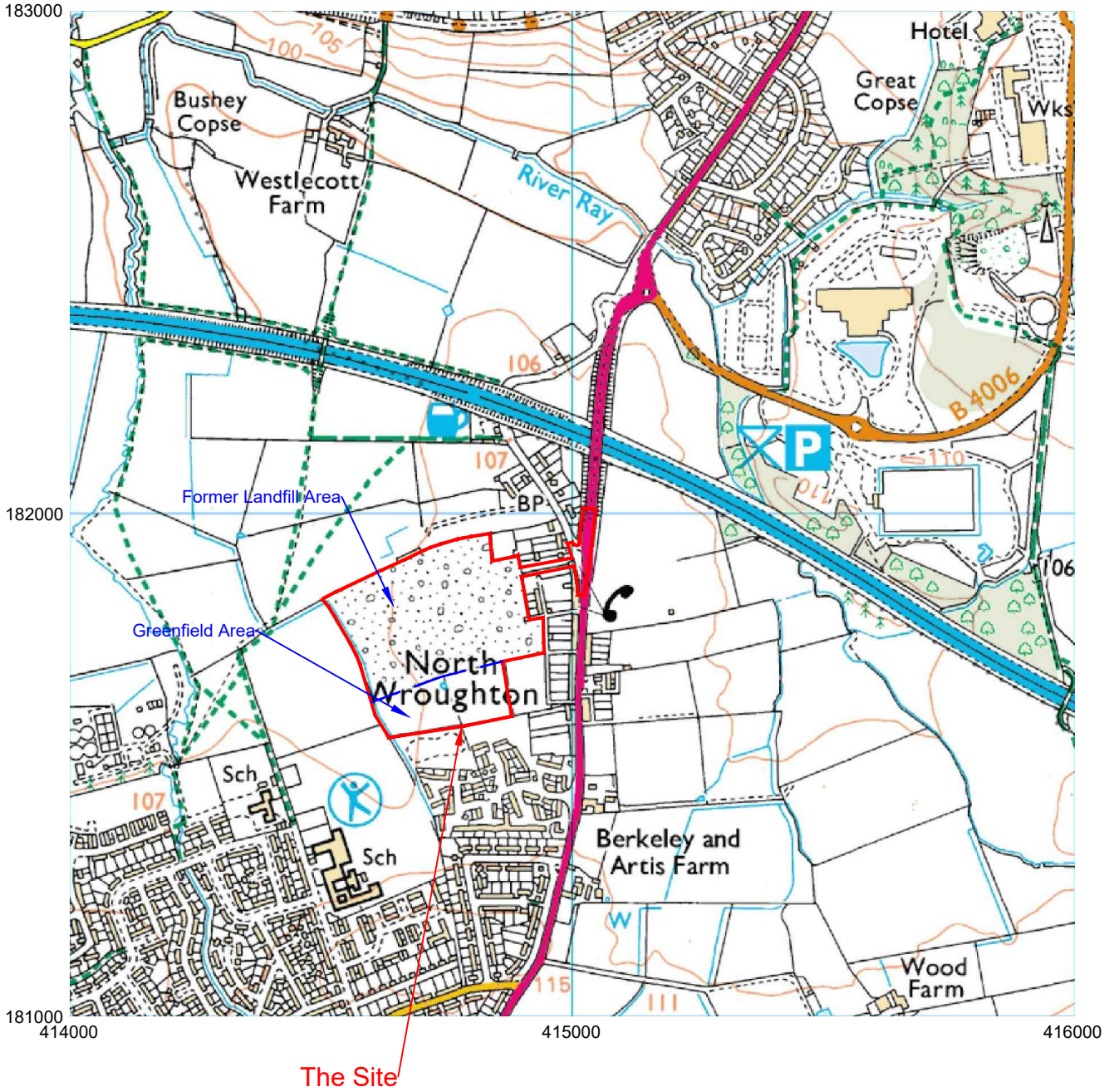
Other mitigation measures are also required as part of the proposed development and the recommendations made within the Hydrock 2020 Report still stand (i.e., barrier pipework within waste materials, ground gas protection, etc.). The existing Remediation Strategy (Ref: 02753-HYD-XX-XX-RP-G-1002) should be updated with the findings of this supplementary ground investigation and should be submitted for review by the relevant regulatory authorities.

5. FURTHER WORKS

Following completion of the supplementary ground investigation, the required works are summarised below.

- Review of the findings of the supplementary ground investigation by the Client's landscape architect, and refinement of the landscaping and plant scheme, if required.
- Discussions with regulatory authorities regarding the conclusions of this technical note.
- Updating of the existing Remediation Strategy with the findings of the supplementary ground investigation. The updated Remediation Strategy should be provided to the relevant regulatory authorities for review.

Annex A Drawings



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Rev	Date	Description	By	Ckd
C	05/05/22	Minor edits	MK	MK
B	18/08/15	Minor edits	KP	KP
A	23/06/11	Initial issue	KP	KP

Project: Land Off Woodland View, Wroughton

Title: SITE LOCATION PLAN

Client: Hills

Drawing Status: INFORMATION

Job No.: C11229

Drawn	Checked	Scale at A4	Date	Issue Date
KP	KP	1:12,500	23/06/11	05/05/22

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Drawing No.: 11229-G016

Revision: C

KEY

- Proposed Strategic Landscape
- Retained habitat to support reptile mitigation
- Existing trees to be retained
- Existing trees to be removed
- Proposed trees
- Proposed footpath diversion
- Existing footpath (FP 78)
- Other footpath
- Primary (Spine) Road - Asphalt 6m + 2m footpath on both sides
- Secondary (Residential) Road - Asphalt 5m + 2m footpath
- Adoptable Shared Surface - Block Paving TBA Min 5m + no footpath
- Private Shared Surface - Block Paving TBA Min 4.5m + no footpath
- Affordable Unit

111.35	Finished Floor Level
122.51	Ridge Level

Site Area	= 11.6 Ha approx.
Development Area	= 5.2 Ha approx.
Houses	= 98
Apartments	= 6
TOTAL	= 104

Approx. 21 DPH

LAND OFF WOODLAND VIEW, WROUGHTON

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N

REV	DATE	AMENDMENTS	DRAWN	CHECKED
K	28.02.22	Amendments to apartment units 46-51	JW	
L	04.04.22	General amendments	JW	

CLIENT: **Hills UK Ltd**

PROJECT: **Land off Woodland View, Wroughton**

DRAWING: **Proposed Site Layout**

DATE: **June 2019**

SCALE: **1:1000**
SIZE: **A1**
JOB NO: **50467**
DWG NO: **P1-01**
REV: **L**

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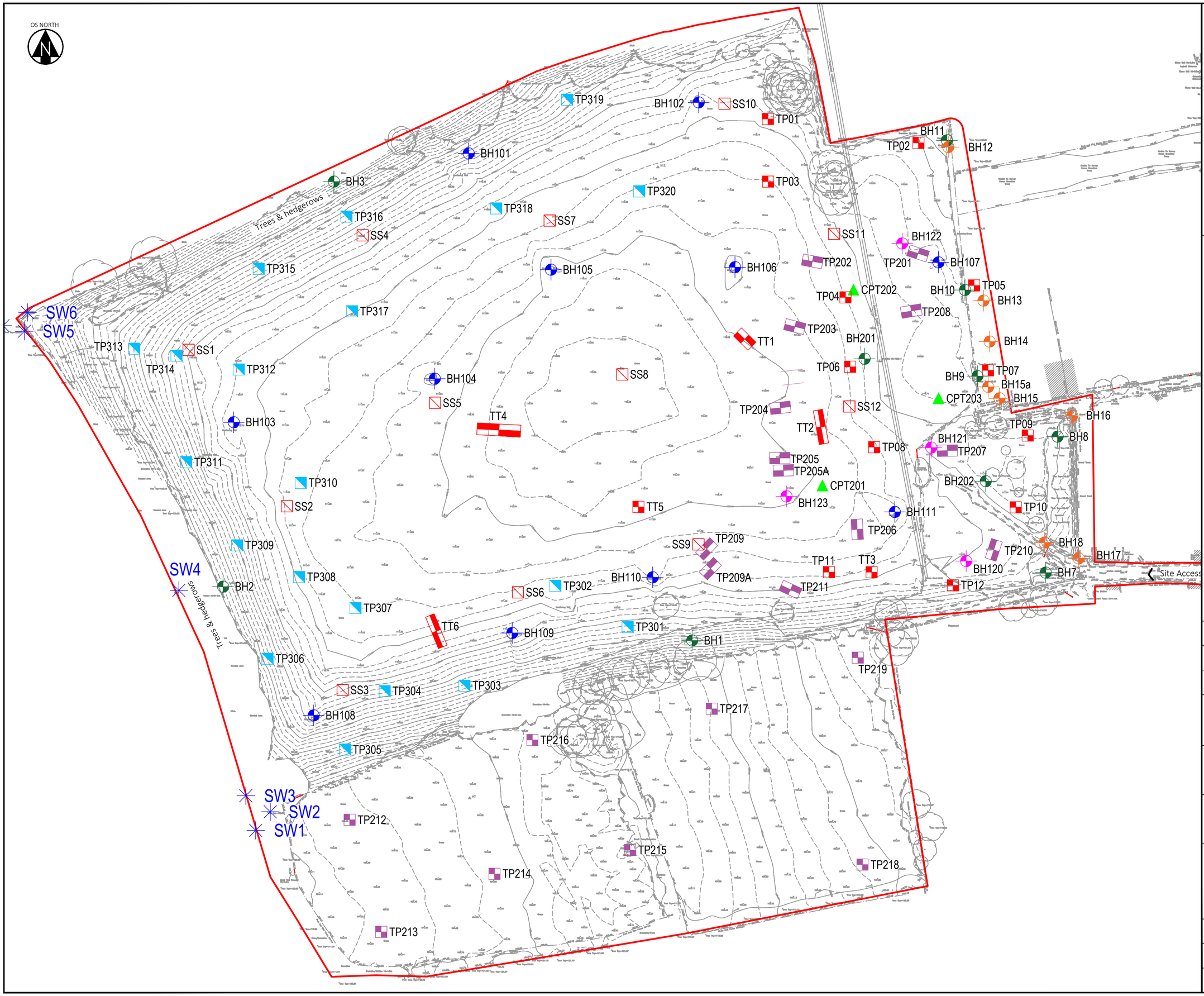

KEY

	Site boundary
BH2	Pre-existing gas monitoring borehole
BH13	Hydrock gas monitoring borehole (June 2008)
SW4	Surface water monitoring point (June 2008)
SS3	Surface soil sample location (June 2008)
BH101	Supplementary Shell & Auger Borehole (July 2011)
TP01	Trial pits (Aug 2015)
TT1	Trial trenches (Jan 2015)
BH120	Hydrock borehole (December 2017)
BH13	Hydrock borehole (June 2019)
TP210	Trial pit (June 2019)
CPT203	Cone Penetration Test (June 2019)
TP318	Trial Pit (June 2022)

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.

2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

3. This drawing has been based on the following drawings and information: Cole Easdon Consultants - Drawing No: 3429/300/01 May 2019

REV.	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P1	FIRST ISSUE					
	AT	06/09/19	MK	06/09/19	RH	06/09/19
P2	SECOND ISSUE - INCLUDING JUNE 2022 LOCATIONS					
	EP	19/07/22	MH	19/07/22	MK	19/07/22

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CLIENT
THE HILLS GROUP

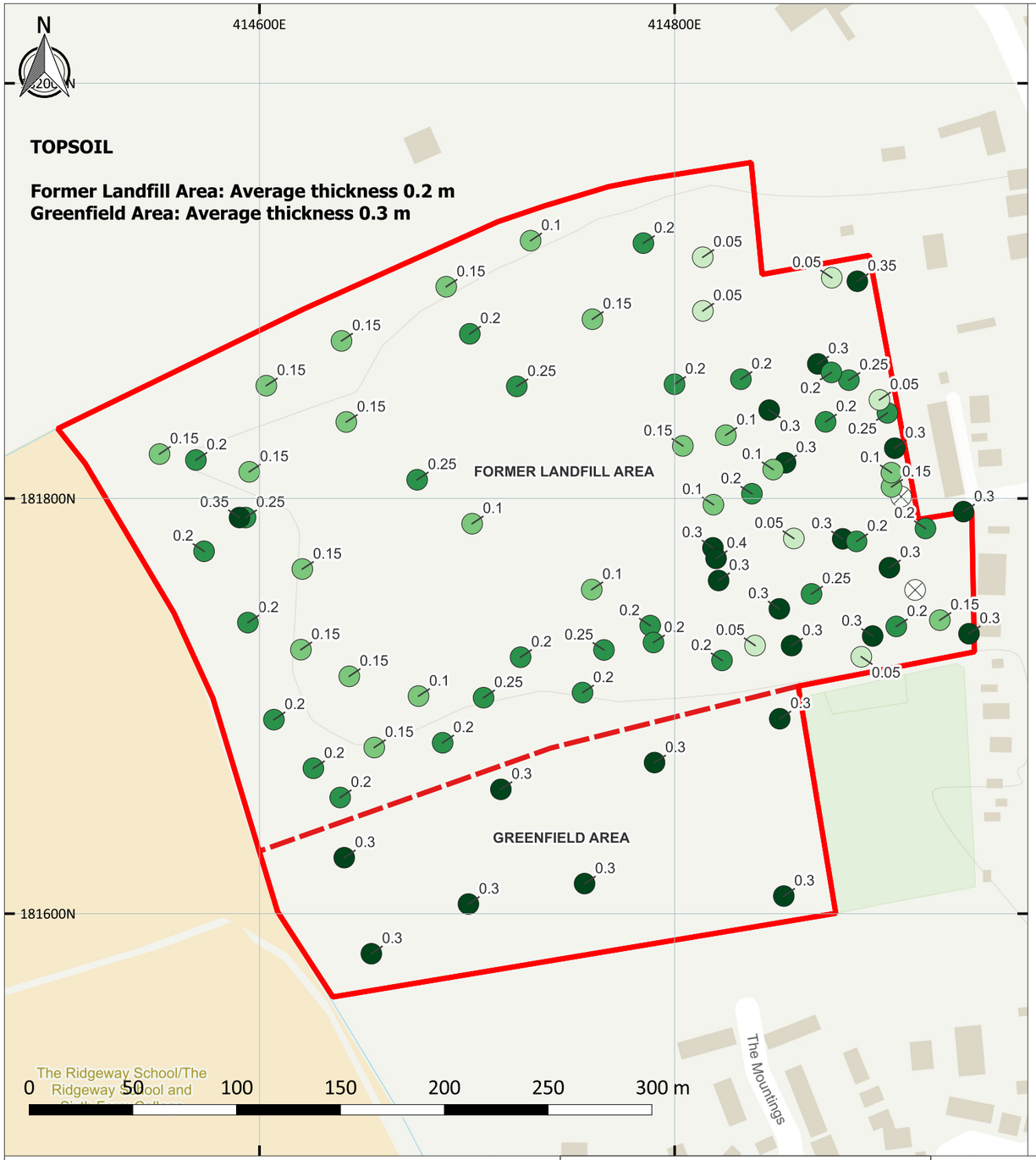
PROJECT
WROUGHTON CLOSED LANDFILL

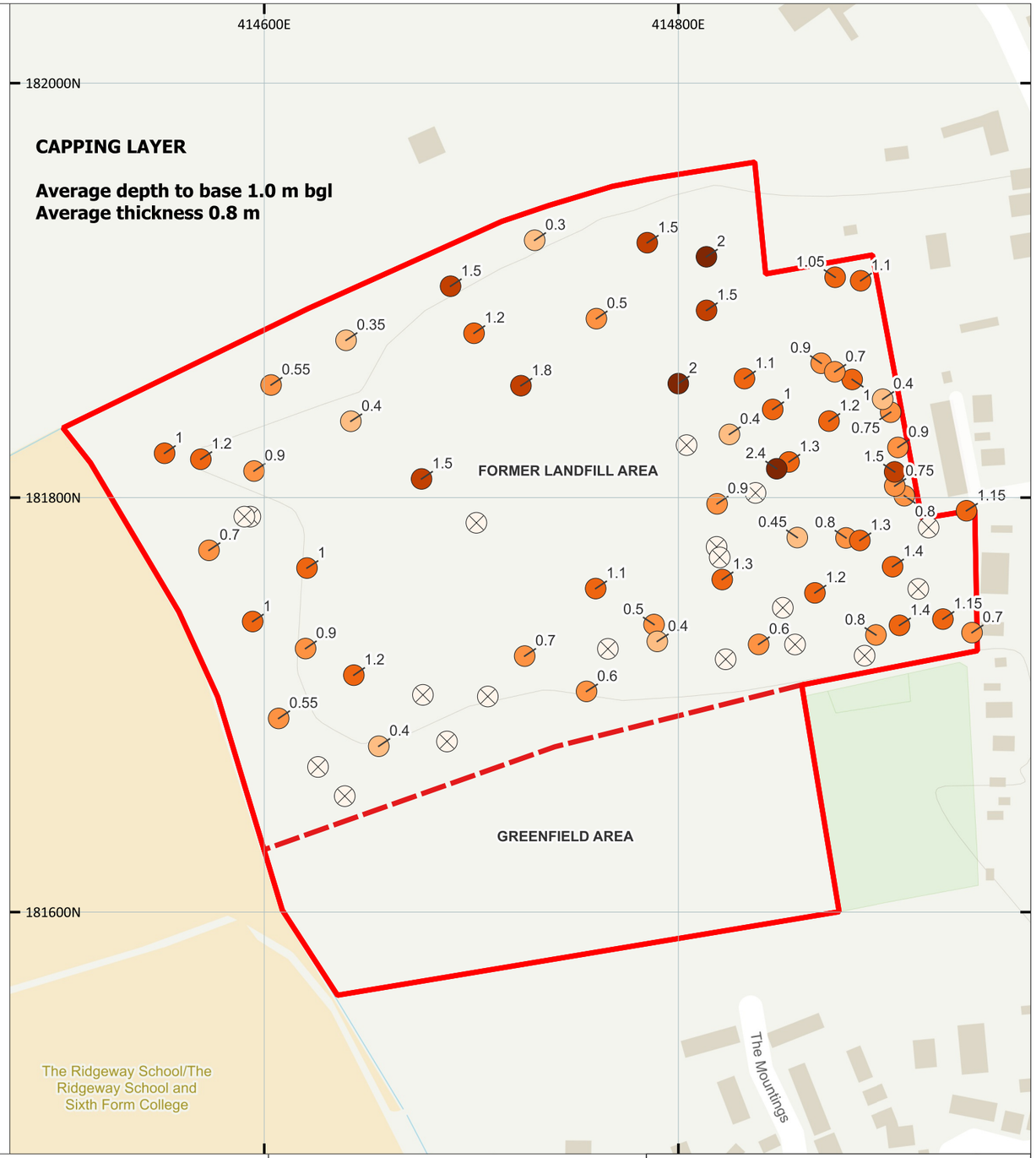
TITLE
EXPLORATORY HOLE LOCTION PLAN

HYDROCK PROJECT NO.	SCALE @ A2
C-02753-C	1:1000

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
02753-HYD-XX-XX-DR-G-1003	P2





KEY PLAN

Site Boundary

Topsoil - depth to base (m bgl)
- Not Logged / Not Identified
- <0.1
- 0.1 - <0.2
- 0.2 - <0.3
- ≥0.3

Capping Layer - depth to base (m bgl)
- Not Logged / Not Identified
- <0.5
- 0.5 - <1.0
- 1.0 - <1.5
- 1.5 - <2.0
- ≥2.0

NOTES

1. Contains OS data © Crown copyright and database right (2022).
2. Average depths and thicknesses are based on ground conditions encountered during all ground investigations undertaken to date (2008 to 2022).
3. m bgl = metres below ground level.

REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	MK	NA	25/07/22	First issue.

Hydrock

TITLE	TOPSOIL AND CAPPING LAYER THICKNESSES
HYDROCK PROJECT NO.	20775
SCALE @ A3	1:2,500
CLIENT	THE HILLS GROUP LTD.
PURPOSE OF ISSUE	SUITABLE FOR INFORMATION
STATUS	S2
PROJECT	WROUGHTON CLOSED LANDFILL
DRAWING NO.	02753-HYD-XX-XX-DR-GE-1009
REVISION	P01

Annex B Exploratory Logs and Photographs

Hydrock	Project: Wroughton Landfill	Trialpit No TP301 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414755.68, 181706.46	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 109.89m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint. (TOPSOIL)	0.20	(0.20)	109.69	
0.40	ES			Brown sandy gravelly CLAY with occasional cobbles of angular brick and concrete. Sand is fine to coarse. Gravel of subrounded to rounded fine to coarse flint and angular fine to coarse brick, slate and concrete. Rare metal and plastic. (CAPPING LAYER)	0.60	(0.40)	109.29	
1.00	ES			Brown clayey gravelly fine to coarse SAND with occasional cobbles and boulders of angular concrete. Gravel of angular fine to coarse brick, concrete and glass. Rare metal and ceramic. (RECENT CONSTRUCTION WASTE)	1.00	(0.40)	108.89	
				Base of Excavation at 1.00m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP302 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414725.82, 181723.50	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.60m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint. (TOPSOIL)	0.20	(0.20)	111.40	
0.40	ES			Stiff brownish grey sandy gravelly CLAY with occasional cobbles and boulders of angular brick, concrete and rare bitumen. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare ceramic. (CAPPING LAYER)	0.70	(0.50)	110.90	
0.90	ES			Firm reddish brown gravelly very sandy CLAY with occasional cobbles and boulders of angular brick, concrete and rare bitumen. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Occasional ceramic, metal and plastic. (RECENT CONSTRUCTION WASTE) *... Between 1.00 and 1.30m bgl: lens of light grey gravelly very sandy CLAY. Gravel of angular fine to coarse concrete and limestone.*	1.40	(0.70)	110.20	
				Base of Excavation at 1.40m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP303 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414688.27, 181682.29	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 108.55m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint, angular fine to coarse brick and rare glass. (TOPSOIL)	0.20	(0.20)	108.35	
0.50	ES			Pale brown very gravelly fine to coarse SAND with occasional to frequent cobbles and boulders of angular brick and concrete. Gravel of angular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Occasional ceramic, plastic and metal. Gradually becoming very sandy gravel. (RECENT CONSTRUCTION WASTE)		(0.80)		
1.00	ES			Base of Excavation at 1.00m	1.00		107.55	

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth with Recent Construction Waste and Capping Layer not identified. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP304 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414655.33, 181680.00	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 109.43m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint. (TOPSOIL)	0.15	(0.15)	109.28	
0.40	ES			Stiff brown sandy gravelly CLAY with occasional cobbles of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. (CAPPING LAYER)	0.40	(0.25)	109.03	
1.00	ES			Pale brown very gravelly fine to coarse SAND with frequent to abundant cobbles and boulders of angular brick and concrete. Gravel of angular to rounded fine to coarse flint and angular fine to coarse brick, bitumen and concrete. Occasional ceramic, fabric, plastic and metal. (RECENT CONSTRUCTION WASTE)	1.05	(0.65)	108.38	
				Base of Excavation at 1.05m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP305 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414638.90, 181655.91	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 106.47m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.20	(0.20)	106.27	
0.60	ES			Pale brown slightly clayey very gravelly fine to coarse SAND with frequent to abundant cobbles and boulders of angular brick and concrete. Gravel of angular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Occasional ceramic, glass, plastic and metal. (RECENT CONSTRUCTION WASTE)	1.10	(0.90)	105.37	
1.10	ES			Base of Excavation at 1.10m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP306 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414606.97, 181693.42	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 108.37m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.20	(0.20)	108.17	
0.40	ES			Stiff brown sandy gravelly CLAY with occasional cobbles of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. (CAPPING LAYER)	0.55	(0.35)	107.82	
0.85	ES			Brown slightly clayey gravelly fine to coarse SAND with frequent to abundant cobbles and boulders of angular brick and concrete. Gravel of angular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Occasional plastic and metal. (RECENT CONSTRUCTION WASTE)	0.95	(0.40)	107.42	
				Base of Excavation at 0.95m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP307 Page No. 1 of 1	
Method: Trial Pit	Date(s): 27/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414643.29, 181714.30	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.66m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	111.51	
0.60	ES			Stiff brown sandy gravelly CLAY with occasional cobbles of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. (CAPPING LAYER)	1.20	(1.05)	110.46	
1.30	ES			Firm dark grey sandy gravelly CLAY with occasional cobbles of angular brick and limestone. Sand is fine to coarse. Gravel of angular fine to coarse brick and limestone. (RECENT CONSTRUCTION WASTE)	1.80	(0.60)	109.86	
1.90	ES			Light brown sandy gravelly COBBLES of angular brick and mortar. Sand is fine to coarse. Gravel of angular fine to coarse brick. (RECENT CONSTRUCTION WASTE)	1.95	(0.15)	109.71	
				Base of Excavation at 1.95m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP308 Page No. 1 of 1	
Method: Trial Pit	Date(s): 28/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414619.98, 181727.13	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.20m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. Rare plastic. (TOPSOIL)	0.15	(0.15)	111.05	
0.40	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare metal. (CAPPING LAYER)	0.50	(0.35)	110.70	
				Firm light brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel of angular fine to coarse brick and concrete. Frequent blackened wood, staining the clay. (CAPPING LAYER)	0.90	(0.40)	110.30	
1.10	ES			Firm dark grey sandy gravelly CLAY Sand is fine to coarse. Gravel of angular fine to coarse brick and limestone. Rare metal and plastic. (RECENT CONSTRUCTION WASTE)	1.80	(0.90)	109.40	
				Base of Excavation at 1.80m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated within what was thought to be Recent Construction Waste, but reassigned as Capping Layer following post-sitework discussion. 3. Some localised black staining and organic odour caused by wood. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP309 Page No. 1 of 1	
Method: Trial Pit	Date(s): 28/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414594.42, 181740.18	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 109.05m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.20	(0.20)	108.85	
0.40	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Occasional glass. (CAPPING LAYER)	0.55	(0.35)	108.50	
0.80	ES			Firm light brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel of angular fine to coarse brick and concrete. Frequent blackened wood, staining the clay. Rare metal and plastic. (CAPPING LAYER)	1.00	(0.45)	108.05	
1.20	ES			Brown slightly clayey very gravelly fine to coarse SAND with occasional cobbles of angular brick and concrete. Gravel of angular fine to coarse brick and concrete. Occasional plastic and fabric. Frequent blackened wood, staining the clay. (RECENT CONSTRUCTION WASTE)	1.20	(0.20)	107.85	

Base of Excavation at 1.20m

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. Some localised black staining and organic odour caused by wood. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP310 Page No. 1 of 1	
Method: Trial Pit	Date(s): 28/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414620.67, 181765.99	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.63m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	111.48	
0.50	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare plastic and metal. (CAPPING LAYER)	1.00	(0.85)	110.63	
0.90	ES							
1.30	ES			Firm dark grey sandy very gravelly CLAY with frequent cobbles of angular brick and limestone. Sand is fine to coarse. Gravel of angular fine to coarse brick and limestone. (RECENT CONSTRUCTION WASTE) *... Between 1.00 and 1.15m bgl in the west of the pit: lens of yellow sandy clay.*	1.30	(0.30)	110.33	
				Base of Excavation at 1.30m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP311 Page No. 1 of 1	
Method: Trial Pit	Date(s): 28/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414573.33, 181774.55	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 108.36m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.20	(0.20)	108.16	
0.50	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare plastic, ceramic and metal. (CAPPING LAYER)	0.70	(0.50)	107.66	
1.00	ES			Stiff orange gravelly very sandy CLAY with occasional plastic. Sand is fine to coarse. Gravel of angular fine to coarse limestone. (RECENT CONSTRUCTION WASTE)	1.00	(0.30)	107.36	
				Base of Excavation at 1.00m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP312 Page No. 1 of 1

Method: Trial Pit	Date(s): 28/06/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414595.09, 181812.81	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 110.87m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	110.72	
0.50	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare plastic, ceramic and metal. (CAPPING LAYER)	0.50	(0.35)	110.37	
				Stiff greyish brown sandy gravelly CLAY with occasional cobbles of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse brick and concrete. (CAPPING LAYER)	0.90	(0.40)	109.97	
1.30 1.30	ASB ES			Pale brown clayey very sandy GRAVEL with occasional cobbles and boulders of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse concrete and occasional brick. Occasional plastic and fragments of suspected asbestos cement. (RECENT CONSTRUCTION WASTE)	1.40	(0.50)	109.47	
				Base of Excavation at 1.40m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. Visual evidence of contamination in the form of asbestos cement. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP313 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414551.87, 181821.38	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 107.40m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	107.25	
0.30	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick, concrete and rare bitumen. Rare plastic. (CAPPING LAYER)	0.40	(0.25)	107.00	
0.60	ES			Stiff greyish brown gravelly very sandy CLAY with rare plastic. Sand is fine to coarse. Gravel of angular fine to coarse limestone. (CAPPING LAYER)	1.00	(0.60)	106.40	
				Pale brown gravelly very sandy CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of angular brick and concrete. Occasional black wood with strong organic odour. Rare plastic piping and metal. (RECENT CONSTRUCTION WASTE)	1.20	(0.20)	106.20	
				Base of Excavation at 1.20m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP314 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414569.37, 181818.49	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 109.83m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy very gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse concrete. (TOPSOIL)	0.20	(0.20)	109.63	
0.40	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare plastic, ceramic, bitumen and metal. (CAPPING LAYER)	0.60	(0.40)	109.23	
0.80	ES			Stiff greyish brown sandy gravelly CLAY with occasional cobbles of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse brick and concrete. Rare bitumen and metal. (CAPPING LAYER)	1.20	(0.60)	108.63	
				White clayey sandy GRAVEL with abundant cobbles of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse concrete, brick and limestone. (RECENT CONSTRUCTION WASTE)	1.50	(0.30)	108.33	
				Base of Excavation at 1.50m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP315 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414603.31, 181854.33	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 108.54m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	108.39	
0.35	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick, limestone and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare metal. (CAPPING LAYER)	0.55	(0.40)	107.99	
0.70	ES			Pale brown clayey gravelly fine to coarse SAND with occasional cobbles of angular concrete. Gravel of angular fine to coarse brick, concrete and extremely weak pale grey mudstone. Occasional wood, not stained. Rare plastic and bitumen. (RECENT CONSTRUCTION WASTE)	0.75	(0.20)	107.79	
				Base of Excavation at 0.75m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP316 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414639.54, 181875.90	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 108.27m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	108.12	
0.25	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick, limestone and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare metal. (CAPPING LAYER)	0.35	(0.20)	107.92	
0.40	ES			Pale brown clayey gravelly fine to coarse SAND with occasional cobbles of angular concrete. Gravel of angular fine to coarse brick, concrete and extremely weak pale grey mudstone. Occasional wood. Rare metal. (RECENT CONSTRUCTION WASTE)	0.45	(0.10)	107.82	
				Base of Excavation at 0.45m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP317 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414641.85, 181836.84	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.01m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	110.86	
0.40	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick, limestone and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. Rare metal and plastic. (CAPPING LAYER)	0.40	(0.25)	110.61	
0.60	ES			Firm greyish brown sandy gravelly CLAY with occasional cobbles of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse brick and concrete and occasional bitumen. Occasional metal and plastic. (RECENT CONSTRUCTION WASTE)	0.85	(0.45)	110.16	
				Base of Excavation at 0.85m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP318 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414701.35, 181879.30	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.01m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.20	(0.20)	110.81	
0.40	ES			Pale grey slightly clayey sandy GRAVEL with occasional cobbles of angular extremely weak siltstone. Sand is fine to coarse. Gravel of angular extremely weak siltstone and occasional limestone. (MADE GROUND)	0.40	(0.20)	110.61	
0.70	ES			Firm greyish brown sandy gravelly CLAY with occasional cobbles of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse brick and concrete and occasional limestone. Frequent wood. (CAPPING LAYER)	1.20	(0.80)	109.81	
1.30	ES			Firm black sandy gravelly CLAY with frequent cobbles of angular brick and concrete. Sand is fine to coarse. Gravel of angular brick, concrete and ceramic. Frequent glass, plastic and metal and occasional wood. Moderate organic odour. (RECENT CONSTRUCTION WASTE)	1.40	(0.20)	109.61	
				Base of Excavation at 1.40m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. Moderate organic odour and black colouring to the clay at depth. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP319 Page No. 1 of 1	
Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414730.64, 181924.17	Stability: Stable	Dimensions: 2.00m × 0.60m / Scale: 1:25
Hydrock Project No: 02753	Ground Level: 108.83m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and rare angular fine to coarse brick and concrete. Rare broken glass. (TOPSOIL)	0.10	(0.10)	108.73	
0.25	ES			Brown clayey sandy GRAVEL with frequent cobbles of angular brick and concrete. Sand is fine to coarse. Gravel of subrounded to rounded fine to medium flint and angular fine to coarse brick, concrete and limestone. Frequent broken glass, rare plastic and ceramic. (CAPPING LAYER)	0.30	(0.20)	108.53	
0.50	ES			Reddish brown clayey sandy GRAVEL with occasional cobbles of angular concrete. Sand is fine to coarse. Gravel of angular fine to coarse brick, concrete and limestone. Abundant broken glass, metal and plastic. (RECENT CONSTRUCTION WASTE)	0.50	(0.20)	108.33	
				Base of Excavation at 0.50m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Wroughton Landfill	Trialpit No TP320 Page No. 1 of 1

Method: Trial Pit	Date(s): 04/07/2022	Logged By: MW	Checked By: MK
Client: Hills Group Ltd.	Co-ords: 414760.46, 181886.34	Stability: Stable	Dimensions: 2.00m × 0.60m; Scale: 1:25
Hydrock Project No: 02753	Ground Level: 111.51m OD	Plant: JCB 3CX	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint, angular fine to coarse limestone and rare angular fine to coarse brick and concrete. (TOPSOIL)	0.15	(0.15)	111.36	
0.25	ES			Stiff brown sandy gravelly CLAY with occasional cobbles and boulders of angular brick, limestone and concrete. Sand is fine to coarse. Gravel of subangular to rounded fine to coarse flint and angular fine to coarse brick and concrete. (CAPPING LAYER)	0.50	(0.35)	111.01	
0.70	ES			Pale grey clayey sandy GRAVEL with occasional cobbles of angular extremely weak siltstone. Sand is fine to coarse. Gravel of angular extremely weak siltstone and occasional limestone. (RECENT CONSTRUCTION WASTE)	1.00	(0.50)	110.51	
				Base of Excavation at 1.00m				

General Remarks:
1. Pit cleared with CAT & Genny. 2. Pit terminated at target depth within Recent Construction Waste to confirm thickness of overlying Capping Layer. 3. No visual or olfactory evidence of contamination. 4. No groundwater encountered. 5. Pit backfilled with arisings.

Logged in general accordance with BS5930:2015

Site Investigation Photograph 1	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP301.	

Site Investigation Photograph 2	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP301.	

Site Investigation Photograph 3	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP302.	

Site Investigation Photograph 4	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP302.	

Site Investigation Photograph 5	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP303.	

Site Investigation Photograph 6	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP303.	

Site Investigation Photograph 7	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP304.	

Site Investigation Photograph 8	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP304.	

Site Investigation Photograph 9	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP305.	

Site Investigation Photograph 10	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP305.	

Site Investigation Photograph 11	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP306.	

Site Investigation Photograph 12	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP306.	

Site Investigation Photograph 13	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP307.	

Site Investigation Photograph 14	
Date: 27/06/22	
Direction Photograph Taken: n/a.	
Description: TP307.	

Site Investigation Photograph 15	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP308.	

Site Investigation Photograph 16	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: TP308.	

Site Investigation Photograph 17	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP309.	

Site Investigation Photograph 18	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: TP309.	

Site Investigation Photograph 19	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP310.	

Site Investigation Photograph 20	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: TP310.	

Site Investigation Photograph 21	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP311	

Site Investigation Photograph 22	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: TP311.	

Site Investigation Photograph 23	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP312.	

Site Investigation Photograph 24	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: Example of suspected asbestos cement found in TP312.	

Site Investigation Photograph 25	
Date: 28/06/22	
Direction Photograph Taken: n/a.	
Description: TP312.	

Site Investigation Photograph 26	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP313.	

Site Investigation Photograph 27	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP313.	

Site Investigation Photograph 28	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP314.	

Site Investigation Photograph 29	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP314.	

Site Investigation Photograph 30	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP315.	

Site Investigation Photograph 31	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP315.	

Site Investigation Photograph 32	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP316.	

Site Investigation Photograph 33	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP316.	

Site Investigation Photograph 34	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP317.	

Site Investigation Photograph 35	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP317.	

Site Investigation Photograph 36	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP318.	

Site Investigation Photograph 37	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP318.	

Site Investigation Photograph 38	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP319.	

Site Investigation Photograph 39	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP319.	

Site Investigation Photograph 40	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP319.	

Site Investigation Photograph 41	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP320.	

Site Investigation Photograph 42	
Date: 04/07/22	
Direction Photograph Taken: n/a.	
Description: TP320.	

Annex C Laboratory Certificates

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f: 01454 614125
e: Group Bristol cc engineer

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t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 22-68519

Project / Site name:	Wroughton Landfill	**Samples received on:**	30/06/2022
Your job number:	2753	**Samples instructed on/ Analysis started on:**	01/07/2022
Your order number:	PO17751	**Analysis completed by:**	08/07/2022
Report Issue Number:	1	**Report issued on:**	08/07/2022
Samples Analysed:	17 soil samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334048	2334049	2334050	2334051	2334052
Sample Reference				TP301	TP301	TP302	TP302	TP304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.40	0.90	0.40
Date Sampled				27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.3	11	5.3	7	5.5
Total mass of sample received	kg	0.001	NONE	1	1	1	1	1

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.2	8.3	9.7	11.2
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.017	0.24	0.086	1.7	0.046
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.011	0.013	0.024	0.0092	0.0085

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	0.05	MCERTS	< 0.05	0.59	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.3	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.44	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	5.1	< 0.05	< 0.05	0.75
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.1	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	7.9	< 0.05	< 0.05	1
Pyrene	mg/kg	0.05	MCERTS	< 0.05	6.8	< 0.05	< 0.05	0.93
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	4.6	< 0.05	< 0.05	0.5
Chrysene	mg/kg	0.05	MCERTS	< 0.05	3.5	< 0.05	< 0.05	0.56
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	4.5	< 0.05	< 0.05	0.53
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.3	< 0.05	< 0.05	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	5.3	< 0.05	< 0.05	0.45
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	2.1	< 0.05	< 0.05	0.24
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.41	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	2.4	< 0.05	< 0.05	0.32

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	47.1	< 0.80	< 0.80	5.61

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334048	2334049	2334050	2334051	2334052
Sample Reference				TP301	TP301	TP302	TP302	TP304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.40	0.90	0.40
Date Sampled				27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	16	12	10	10
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.79	0.95	0.72	0.54	0.74
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.9	0.6	1	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	17	23	19	16	25
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	23	19	16	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	18	18	17	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	110	19	23	44
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	21	16	12	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	41	36	20	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	46	74	130	58	90

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334053	2334054	2334055	2334056	2334057
Sample Reference				TP305	TP306	TP306	TP307	TP307
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.10	0.10	0.40	0.60	1.30
Date Sampled				27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	30	6.6	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.3	9.8	10	13	13
Total mass of sample received	kg	0.001	NONE	1	1	1	1	1

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	7.9	7.7	7.9	7.3
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.12	0.21	1.4	0.32	2.5
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.012	0.038	0.0082	0.0053	0.0092

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	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.21	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.68	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.64	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.4	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.48	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.6	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.57	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.29	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.39	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	4.53	< 0.80	< 0.80	< 0.80	< 0.80

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Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334053	2334054	2334055	2334056	2334057
Sample Reference				TP305	TP306	TP306	TP307	TP307
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.10	0.10	0.40	0.60	1.30
Date Sampled				27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	11	12	13	8
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.75	0.65	0.78	0.8	0.58
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.7	0.4	0.7	2.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	18	15	19	19	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	15	19	19	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	29	22	37	18
Lead (aqua regia extractable)	mg/kg	1	MCERTS	76	16	19	21	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	15	19	20	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31	19	24	24	18
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	89	52	43	42

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334058	2334059	2334060	2334061	2334062
Sample Reference				TP309	TP309	TP310	TP311	TP311
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.80	0.90	0.10	0.50
Date Sampled				28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.4	15	7.9	11	8.1
Total mass of sample received	kg	0.001	NONE	0.6	0.6	1	1	1

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1	7.9	8.1	8.4	8.6
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.8	2.1	0.64	0.024	0.14
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0099	0.0031	0.0061	0.02	0.0055

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	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

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Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334058	2334059	2334060	2334061	2334062
Sample Reference				TP309	TP309	TP310	TP311	TP311
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.80	0.90	0.10	0.50
Date Sampled				28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	20	14	14	16
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.85	1.1	0.65	0.86	0.86
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.7	0.6	1.3	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	18	26	17	19	20
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	26	17	20	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	23	14	17	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	22	38	21	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	35	16	19	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	45	28	25	26
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	41	81	64	51	43

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334063	2334064
Sample Reference				TP312	TP312
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	1.30
Date Sampled				28/06/2022	28/06/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	22	< 0.1
Moisture Content	%	0.01	NONE	11	10
Total mass of sample received	kg	0.001	NONE	1	1

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.0	10.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.2	0.17
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0095	0.0067

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	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.9	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.92	0.28
Pyrene	mg/kg	0.05	MCERTS	0.71	0.25
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.43	0.14
Chrysene	mg/kg	0.05	MCERTS	0.56	0.24
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.38	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.23	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.35	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	4.48	0.91

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Analytical Report Number: 22-68519
Project / Site name: Wroughton Landfill
Your Order No: PO17751

Lab Sample Number				2334063	2334064
Sample Reference				TP312	TP312
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	1.30
Date Sampled				28/06/2022	28/06/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	17
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.82	1
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	29
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	31	31
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	53
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	78	100

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-68519
Project / Site name: Wroughton Landfill

* 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 *
2334048	TP301	None Supplied	0.1	Brown clay and loam with gravel and vegetation.
2334049	TP301	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2334050	TP302	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2334051	TP302	None Supplied	0.9	Brown clay and sand with gravel.
2334052	TP304	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2334053	TP305	None Supplied	1.1	Brown loam and clay with gravel and vegetation.
2334054	TP306	None Supplied	0.1	Brown clay and loam with gravel and stones.
2334055	TP306	None Supplied	0.4	Brown clay and loam with gravel and stones.
2334056	TP307	None Supplied	0.6	Brown clay and sand with gravel.
2334057	TP307	None Supplied	1.3	Brown clay and sand with gravel.
2334058	TP309	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2334059	TP309	None Supplied	0.8	Brown clay and sand.
2334060	TP310	None Supplied	0.9	Brown clay and sand with gravel and vegetation.
2334061	TP311	None Supplied	0.1	Brown clay and loam with gravel and vegetation.
2334062	TP311	None Supplied	0.5	Brown clay and loam with gravel and vegetation.
2334063	TP312	None Supplied	0.5	Brown clay and loam with gravel and stones.
2334064	TP312	None Supplied	1.3	Brown clay and sand with gravel.

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Analytical Report Number : 22-68519
Project / Site name: Wroughton Landfill

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion 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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	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
Speciated EPA-16 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	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	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
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-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 : 22-68519
Project / Site name: Wroughton Landfill

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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The results included within the report relate only to the sample(s) submitted for testing.

Matt Wincott
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Analytical Report Number : 22-69534

Project / Site name:	Wroughton Landfill	**Samples received on:**	06/07/2022
Your job number:	2753	**Samples instructed on/ Analysis started on:**	06/07/2022
Your order number:	PO17928	**Analysis completed by:**	13/07/2022
Report Issue Number:	1	**Report issued on:**	13/07/2022
Samples Analysed:	11 soil samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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

Analytical Report Number: 22-69534
Project / Site name: Wroughton Landfill
Your Order No: PO17928

Lab Sample Number				2339533	2339534	2339535	2339536	2339537
Sample Reference				TP313	TP314	TP315	TP315	TP316
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.35	0.70	0.25
Date Sampled				04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	11	10	12	9.2
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.9	0.9	0.9

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	8.1	8.1	8.1	8
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.013	0.01	0.01	0.012	0.018
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0072	0.006	0.0035	0.0089	0.0073

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	5.8	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.8	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.3	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	1.3	< 0.05	12	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.7	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.3	< 0.05	14	0.46
Pyrene	mg/kg	0.05	MCERTS	< 0.05	1.8	< 0.05	11	0.51
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.8	< 0.05	7.1	0.48
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.88	< 0.05	5.1	0.42
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.96	< 0.05	5.7	0.54
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.58	< 0.05	3.6	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.91	< 0.05	5.9	0.52
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.41	< 0.05	2.4	0.29
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.68	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.53	< 0.05	3.1	0.37

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	10.4	< 0.80	83.2	3.88

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-69534
Project / Site name: Wroughton Landfill
Your Order No: PO17928

Lab Sample Number				2339533	2339534	2339535	2339536	2339537
Sample Reference				TP313	TP314	TP315	TP315	TP316
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.35	0.70	0.25
Date Sampled				04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	23	18	12	13
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.92	1.1	1.3	1.1	0.75
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.5	0.6	0.5	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	23	32	27	20	17
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	32	27	20	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	8.9	13	9.6	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	22	21	17	19	27
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	23	22	17	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	60	36	29	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	45	48	37	46	49

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-69534
Project / Site name: Wroughton Landfill
Your Order No: PO17928

Lab Sample Number				2339538	2339539	2339540	2339541	2339542
Sample Reference				TP317	TP318	TP319	TP319	TP320
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.70	0.10	0.25	0.25
Date Sampled				04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.9	18	10	7.8	11
Total mass of sample received	kg	0.001	NONE	0.8	0.9	0.9	0.9	0.9

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	7.6	8.1	8.4	7.7
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.78	1.9	0.067	0.038	0.018
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0049	0.0045	0.031	0.02	0.011

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	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.4	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.2	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	9.5	1.2	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.3	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.37	14	4.2	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.33	13	4	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	7.4	2.5	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	4.2	1.9	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	5.7	3.2	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.3	1.5	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	5.1	2.9	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.6	1.7	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.79	0.47	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	3.3	2	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	72.6	25.6	< 0.80

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Analytical Report Number: 22-69534
Project / Site name: Wroughton Landfill
Your Order No: PO17928

Lab Sample Number				2339538	2339539	2339540	2339541	2339542
Sample Reference				TP317	TP318	TP319	TP319	TP320
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.70	0.10	0.25	0.25
Date Sampled				04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	14	14	21	11
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.99	0.82	1.2	1.5	0.78
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	1.9	4	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	1.1	0.9	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	21	49	87	24
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	21	49	88	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	45	18	43	64	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	41	20	93	190	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	24	36	56	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	35	33	45	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	67	210	200	71

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-69534
Project / Site name: Wroughton Landfill
Your Order No: PO17928

Lab Sample Number				2339543
Sample Reference				TP320
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				04/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	7.9
Total mass of sample received	kg	0.001	NONE	0.9

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.029
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0071

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.5
Pyrene	mg/kg	0.05	MCERTS	1.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.67
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.57
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	4.98

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Analytical Report Number: 22-69534
Project / Site name: Wroughton Landfill
Your Order No: PO17928

Lab Sample Number				2339543
Sample Reference				TP320
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				04/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	25
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14
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	58

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 22-69534
Project / Site name: Wroughton Landfill

* 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 *
2339533	TP313	None Supplied	0.3	Brown clay and sand with gravel.
2339534	TP314	None Supplied	0.4	Brown clay and sand with gravel.
2339535	TP315	None Supplied	0.35	Brown clay with gravel.
2339536	TP315	None Supplied	0.7	Brown clay with gravel and vegetation.
2339537	TP316	None Supplied	0.25	Brown clay with gravel and vegetation.
2339538	TP317	None Supplied	0.4	Brown clay with gravel and vegetation.
2339539	TP318	None Supplied	0.7	Brown clay with gravel.
2339540	TP319	None Supplied	0.1	Brown clay and loam with gravel and vegetation.
2339541	TP319	None Supplied	0.25	Brown sandy loam with gravel and vegetation.
2339542	TP320	None Supplied	0.25	Brown clay and loam with gravel and vegetation.
2339543	TP320	None Supplied	0.7	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 22-69534
Project / Site name: Wroughton Landfill

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion 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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	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
Speciated EPA-16 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	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	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
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Annex D Assessment Sheets

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)
								Location & Depth	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12	TP301	TP306	TP311
									0.1	0.15	0.1	0.15	0.15	0.2	0.2	0.1	0.2	0.25	0.2	0.25	0.1	0.1	0.1
Arsenic	1	15	8.9	26	0	37	18.93	POTENTIALLY SUITABLE FOR USE	15	11	11	15	11	8.9	11	18	26	13	16	18	13	11	14
Beryllium	0.06	15	0.65	1	0	73	1.07	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	0.79	0.65	0.86
Boron	0.2	14	0.6	2.8	0	300	2.07	POTENTIALLY SUITABLE FOR USE	2.8	0.6	0.6	0.8	0.7	1.3		1.1	1.1	1.1	1.7	2.7	0.7	0.7	1.3
Cadmium	0.2	15	0.1	0.81	0	14	0.39	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.35	0.1	0.1	0.81	0.2	0.2	0.2
Chromium (III)	1	15	11	57	0	890	32.69	POTENTIALLY SUITABLE FOR USE	15	11	24	23	19	11	13	13	27	16	20	57	17	15	19
Copper	1	15	9	38	0	2500	27.23	POTENTIALLY SUITABLE FOR USE	14	9	13	19	14	14	14	11	18	18	28	38	21	29	17
Lead	2	15	16	260	1	200	116.31	POTENTIALLY SUITABLE FOR USE	31	260	19	28	19	32	30	17	45	23	72	72	18	16	21
Mercury, inorganic	0.3	15	0.1	2.3	0	170	0.92	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.16	0.1	0.1	0.1	2.3	0.3	0.3	0.3
Nickel	2	15	11	41	0	130	30.64	POTENTIALLY SUITABLE FOR USE	18	16	28	29	25	11	14	18	32	19	22	41	18	15	19
Selenium	1	15	0.2	1	0	360	0.73	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24	0.2	0.2	1	1	1
Vanadium	1	15	11	49	0	410	36.98	POTENTIALLY SUITABLE FOR USE	26	11	32	29	24	18	17	17	43	21	31	49	22	19	25
Zinc	2	15	37	180	0	3900	123.16	POTENTIALLY SUITABLE FOR USE	55	37	44	65	44	66	57	44	140	46	140	180	46	89	51
Cyanide (free)	1	15	0.5	1	0	790	0.83	POTENTIALLY SUITABLE FOR USE	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1
Phenol (total)	1	15	0.3	1	0	560	0.77	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1	1	1
Acenaphthene	0.05	15	0.01	0.23	0	520	0.10	POTENTIALLY SUITABLE FOR USE	0.23	0.01	0.07	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.05	0.05	0.05
Acenaphthylene	0.05	15	0.01	0.09	0	430	0.07	POTENTIALLY SUITABLE FOR USE	0.04	0.06	0.03	0.01	0.06	0.01	0.03	0.01	0.06	0.04	0.09	0.07	0.05	0.05	0.05
Anthracene	0.05	15	0.01	0.3	0	5500	0.13	POTENTIALLY SUITABLE FOR USE	0.03	0.01	0.01	0.01	0.12	0.01	0.01	0.01	0.01	0.01	0.3	0.01	0.05	0.05	0.05
Benz(a)anthracene	0.05	15	0.01	0.91	0	6.7	0.44	POTENTIALLY SUITABLE FOR USE	0.01	0.23	0.24	0.01	0.27	0.07	0.13	0.33	0.25	0.1	0.91	0.1	0.05	0.05	0.05
Benzo(a)pyrene	0.05	15	0.01	1.4	0	1.5	0.65	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.45	0.01	0.35	0.17	0.4	0.28	0.32	0.01	1.4	0.2	0.05	0.05	0.05
Benzo(b)fluoranthene	0.05	15	0.01	1.5	0	9.4	0.66	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.31	0.01	0.44	0.12	0.25	0.17	0.4	0.01	1.5	0.01	0.05	0.05	0.05
Benzo(ghi)perylene	0.05	15	0.01	0.87	0	69	0.34	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.16	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.87	0.06	0.05	0.05	0.05
Benzo(k)fluoranthene	0.05	15	0.01	0.51	0	14	0.27	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.08	0.01	0.22	0.08	0.12	0.32	0.08	0.01	0.51	0.02	0.05	0.05	0.05
Chrysene	0.05	15	0.01	1.1	0	11	0.56	POTENTIALLY SUITABLE FOR USE	0.15	0.31	0.41	0.01	0.37	0.27	0.36	0.05	0.35	0.01	1.1	0.18	0.05	0.05	0.05
Dibenz(a,h)anthracene	0.05	15	0.01	0.87	0	1.3	0.33	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.87	0.06	0.05	0.05	0.05
Fluoranthene	0.05	15	0.05	1.6	0	560	0.89	POTENTIALLY SUITABLE FOR USE	0.37	0.47	0.51	0.4	0.88	0.38	0.42	0.16	0.56	0.3	1.6	0.51	0.05	0.05	0.05
Fluorene	0.05	15	0.01	0.06	0	410	0.05	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.05	0.05	0.05
Indeno(1,2,3,cd)pyrene	0.05	15	0.01	0.15	0	5.5	0.08	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.07	0.01	0.01	0.15	0.01	0.01	0.01	0.01	0.01	0.07	0.05	0.05	0.05
Naphthalene	0.05	15	0.01	0.05	0	5.2	0.04	POTENTIALLY SUITABLE FOR USE	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.05
Phenanthrene	0.05	15	0.01	0.93	0	220	0.43	POTENTIALLY SUITABLE FOR USE	0.09	0.08	0.11	0.05	0.48	0.02	0.06	0.01	0.11	0.01	0.93	0.16	0.05	0.05	0.05
Pyrene	0.05	15	0.05	1.4	0	1200	0.71	POTENTIALLY SUITABLE FOR USE	0.2	0.26	0.47	0.15	0.58	0.21	0.3	0.06	0.49	0.1	1.4	0.39	0.05	0.05	0.05
Asbestos identified	Y/N								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
FOC (dimensionless)	0.023443	**(mean)**							0.048	0.011	0.012	0.029	0.018	0.068	0.013	0.081	0.023	0.0037	0.066	0.039	0.011	0.038	0.02
SOM (calculated)	5.52%	**(mean)**							8.28%	1.90%	2.07%	5.00%	3.10%	11.72%	2.24%	13.96%	3.97%	0.64%	11.38%	6.72%	1.90%	6.55%	3.45%
pH (su)	7.9	**(mean)**							7.2	7.3	10.1	7.4	8.1	7.6	7.8	7.6	7.4	7.5	7.7	7.7	8.4	7.9	8.4

Risk parameter: **Human health - residential with plant uptake (2.5%SOM)**
Data set: Landfill Topsoil
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC) or +ve asbestos ID.
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)	TS (LF)
								Location & Depth	**SS1**	**SS2**	**SS3**	**SS4**	**SS5**	**SS6**	**SS7**	**SS8**	**SS9**	**SS10**	**SS11**	**SS12**	**TP301**	**TP306**	**TP311**
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.1**	**0.15**	**0.1**	**0.15**	**0.15**	**0.2**	**0.2**	**0.1**	**0.2**	**0.25**	**0.2**	**0.25**	**0.1**	**0.1**	**0.1**
Arsenic	1	15	8.9	26	0	250	18.93	POTENTIALLY SUITABLE FOR USE	15	11	11	15	11	8.9	11	18	26	13	16	18	13	11	14
Boron	0.2	14	0.6	2.8	0	3	2.07	POTENTIALLY SUITABLE FOR USE	2.8	0.6	0.6	0.8	0.7	1.3		1.1	1.1	1.1	1.7	2.7	0.7	0.7	1.3
Chromium (III)	1	15	11	57	0	400	32.69	POTENTIALLY SUITABLE FOR USE	15	11	24	23	19	11	13	13	27	16	20	57	17	15	19
Copper	1	15	9	38	0	135	27.23	POTENTIALLY SUITABLE FOR USE	14	9	13	19	14	14	14	11	18	18	28	38	21	29	17
Nickel	2	15	11	41	0	75	30.64	POTENTIALLY SUITABLE FOR USE	18	16	28	29	25	11	14	18	32	19	22	41	18	15	19
Zinc	2	15	37	180	0	300	123.16	POTENTIALLY SUITABLE FOR USE	55	37	44	65	44	66	57	44	140	46	140	180	46	89	51
	Mean																						
pH (su)	7.9								7.2	7.3	10.1	7.4	8.1	7.6	7.8	7.6	7.4	7.5	7.7	7.7	8.4	7.9	8.4

Risk parameter: **Plant life pH 7**
Data set: Landfill Topsoil
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test															
								Soil Type	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
								Location & Depth	TP01	TP02	TP03	TP05	TP06	TP06	TP07	TP08	TP11	TP301	TP302	TP304	TP306	TP307	TP309
									1.0	1.0	1.0	0.3	0.3	1.0	0.5	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.4
Arsenic	1	25	7.2	25	0	37	18.97	POTENTIALLY SUITABLE FOR USE	11	25	7.2	22	14	14	7.6	21	21	16	12	10	12	13	12
Beryllium	0.06	25	0.4	1.3	0	73	1.07	POTENTIALLY SUITABLE FOR USE	1	1	0.5	1.2	0.7	0.7	0.4	1.2	1.3	0.95	0.72	0.74	0.78	0.8	0.85
Boron	0.2	25	0.4	2.1	0	300	1.51	POTENTIALLY SUITABLE FOR USE	1.6	1.8	0.6	1.7	0.5	1.3	0.4	1.9	2.1	0.9	0.6	0.8	0.4	0.7	0.4
Cadmium	0.2	25	0.2	3.1	0	14	0.87	POTENTIALLY SUITABLE FOR USE	0.8	3.1	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chromium (III)	1	25	9.8	38.8	0	890	30.18	POTENTIALLY SUITABLE FOR USE	18.8	38.8	9.8	38.8	21.8	26.8	14.8	38.8	38.8	23	19	25	19	19	18
Chromium (VI)	1.8	25	1.2	1.8	0	6.1	1.84	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Copper	1	25	8.9	190	0	2500	59.30	POTENTIALLY SUITABLE FOR USE	44	190	19	23	18	43	16	30	20	18	18	26	22	37	13
Lead	1	25	16	120	0	200	72.37	POTENTIALLY SUITABLE FOR USE	99	69	52	110	40	120	32	64	24	110	19	44	19	21	16
Mercury, inorganic	0.3	25	0.3	1.1	0	170	0.47	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nickel	1	25	12	37	0	130	25.94	POTENTIALLY SUITABLE FOR USE	22	23	12	28	23	20	12	31	37	21	16	16	19	20	18
Selenium	1	25	1	1	0	360	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vanadium	1	25	16	76	0	410	54.97	POTENTIALLY SUITABLE FOR USE	27	73	16	76	42	44	20	75	75	41	36	29	24	24	23
Zinc	1	25	37	180	0	3900	103.17	POTENTIALLY SUITABLE FOR USE	180	120	73	92	67	110	47	95	78	74	130	90	52	43	41
Cyanide (free)	1	25	1	1	0	790	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phenol (total)	1	25	1	1	0	290	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acenaphthene	0.1	25	0.05	0.3	0	220	0.12	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.05	0.05	0.05	0.05	0.05
Acenaphthylene	0.1	25	0.05	0.59	0	180	0.20	POTENTIALLY SUITABLE FOR USE	0.32	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.59	0.05	0.05	0.05	0.05	0.05
Anthracene	0.1	25	0.05	1.1	0	2400	0.35	POTENTIALLY SUITABLE FOR USE	0.66	0.1	0.1	0.27	0.1	0.18	0.1	0.1	0.1	1.1	0.05	0.05	0.05	0.05	0.05
Benz(a)anthracene	0.1	25	0.05	4.6	1	4.2	1.45	POTENTIALLY SUITABLE FOR USE	3.2	0.38	0.1	0.84	0.1	1.2	0.1	0.27	0.25	4.6	0.05	0.5	0.05	0.05	0.05
Benzo(a)pyrene	0.1	25	0.05	5.3	3	1.5	1.68	FURTHER ASSESSMENT REQUIRED	3.6	0.61	0.1	0.69	0.1	1.5	0.1	0.27	0.24	5.3	0.05	0.45	0.05	0.05	0.05
Benzo(b)fluoranthene	0.1	25	0.05	4.5	0	7.6	1.56	POTENTIALLY SUITABLE FOR USE	3.6	0.64	0.1	0.76	0.1	1.6	0.1	0.33	0.24	4.5	0.05	0.53	0.05	0.05	0.05
Benzo(ghi)perylene	0.05	25	0.05	2.4	0	64	0.96	POTENTIALLY SUITABLE FOR USE	2.4	0.42	0.05	0.45	0.05	1	0.05	0.05	0.05	2.4	0.05	0.32	0.05	0.05	0.05
Benzo(k)fluoranthene	0.1	25	0.05	2.3	0	12	0.84	POTENTIALLY SUITABLE FOR USE	1.9	0.26	0.1	0.49	0.1	0.96	0.1	0.15	0.17	2.3	0.05	0.29	0.05	0.05	0.05
Chrysene	0.05	25	0.05	3.5	0	7.7	1.24	POTENTIALLY SUITABLE FOR USE	2.9	0.4	0.05	0.73	0.05	1.2	0.05	0.27	0.18	3.5	0.05	0.56	0.05	0.05	0.05
Dibenz(a,h)anthracene	0.1	25	0.05	0.88	0	1.1	0.31	POTENTIALLY SUITABLE FOR USE	0.39	0.1	0.1	0.1	0.1	0.19	0.1	0.1	0.1	0.41	0.05	0.05	0.05	0.05	0.05
Fluoranthene	0.1	25	0.05	7.9	0	290	2.45	POTENTIALLY SUITABLE FOR USE	5.4	0.41	0.1	1.8	0.1	1.8	0.1	0.38	0.27	7.9	0.05	1	0.05	0.05	0.05
Fluorene	0.1	25	0.05	2.3	0	170	0.60	POTENTIALLY SUITABLE FOR USE	0.21	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.44	0.05	0.05	0.05	0.05	0.05
Indeno(1,2,3,cd)pyrene	0.1	25	0.05	2.2	0	4.3	0.81	POTENTIALLY SUITABLE FOR USE	2.2	0.4	0.1	0.4	0.1	0.88	0.1	0.1	0.1	2.1	0.05	0.24	0.05	0.05	0.05
Naphthalene	0.05	25	0.05	0.41	0	2.2	0.15	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Phenanthrene	0.1	25	0.05	5.1	0	97	1.49	POTENTIALLY SUITABLE FOR USE	2.3	0.2	0.1	1.1	0.1	0.49	0.1	0.1	0.1	5.1	0.05	0.75	0.05	0.05	0.05
Pyrene	0.1	25	0.05	6.8	0	620	2.26	POTENTIALLY SUITABLE FOR USE	5	0.42	0.1	1.5	0.1	1.6	0.1	0.39	0.27	6.8	0.05	0.93	0.05	0.05	0.05
Asbestos identified	Y/N								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
FOC (dimensionless)	0.00894	**(mean)**							0.019	0.0081	0.0009	0.011	0.0094	0.011	0.0007	0.016	0.013	0.013	0.024	0.0085	0.0082	0.0053	0.0099
SOM (calculated)	1.54%	**(mean)**							3.28%	1.40%	0.16%	1.90%	1.62%	1.90%	0.12%	2.76%	2.24%	2.24%	4.14%	1.47%	1.41%	0.91%	1.71%
pH (su)	8.0	**(mean)**							7.8	7.7	7.8	7.4	7.3	7.3	7.8	7.2	7.1	8.2	8.3	11.2	7.7	7.9	8.1

Risk parameter: Human health - residential with plant uptake (1%SOM)
Data set: Capping Layer
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC) or +ve asbestos ID.

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test																		
								Soil Type	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**						
								Location & Depth	**TP310**	**TP311**	**TP312**	**TP313**	**TP314**	**TP315**	**TP316**	**TP317**	**TP318**	**TP320**						
									0.9	**0.5**	**0.5**	**0.30**	**0.40**	**0.35**	**0.25**	**0.40**	**0.70**	**0.25**						
Arsenic	1	25	7.2	25	0	37	18.97	POTENTIALLY SUITABLE FOR USE	14	16	13	18	23	18	13	15	14	11						
Beryllium	0.06	25	0.4	1.3	0	73	1.07	POTENTIALLY SUITABLE FOR USE	0.65	0.86	0.82	0.92	1.1	1.3	0.75	0.99	0.82	0.78						
Boron	0.2	25	0.4	2.1	0	300	1.51	POTENTIALLY SUITABLE FOR USE	0.6	0.5	2.1	0.9	0.5	0.6	0.5	0.8	1.9	0.4						
Cadmium	0.2	25	0.2	3.1	0	14	0.87	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5						
Chromium (III)	1	25	9.8	38.8	0	890	30.18	POTENTIALLY SUITABLE FOR USE	17	20	20	21.2	30.2	25.2	15.2	18.2	19.2	22.2						
Chromium (VI)	1.8	25	1.2	1.8	0	6.1	1.84	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8						
Copper	1	25	8.9	190	0	2500	59.30	POTENTIALLY SUITABLE FOR USE	14	12	25	11	8.9	13	11	45	18	20						
Lead	1	25	16	120	0	200	72.37	POTENTIALLY SUITABLE FOR USE	38	16	31	22	21	17	27	41	20	23						
Mercury, inorganic	0.3	25	0.3	1.1	0	170	0.47	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3						
Nickel	1	25	12	37	0	130	25.94	POTENTIALLY SUITABLE FOR USE	16	19	27	18	23	22	17	22	24	21						
Selenium	1	25	1	1	0	360	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1						
Vanadium	1	25	16	76	0	410	54.97	POTENTIALLY SUITABLE FOR USE	28	26	36	39	60	36	23	27	35	37						
Zinc	1	25	37	180	0	3900	103.17	POTENTIALLY SUITABLE FOR USE	64	43	78	45	48	37	49	48	67	71						
Cyanide (free)	1	25	1	1	0	790	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1						
Phenol (total)	1	25	1	1	0	290	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1						
Acenaphthene	0.1	25	0.05	0.3	0	220	0.12	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
Acenaphthylene	0.1	25	0.05	0.59	0	180	0.20	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
Anthracene	0.1	25	0.05	1.1	0	2400	0.35	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
Benz(a)anthracene	0.1	25	0.05	4.6	1	4.2	1.45	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.43	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
Benzo(a)pyrene	0.1	25	0.05	5.3	3	1.5	1.68	FURTHER ASSESSMENT REQUIRED	0.05	0.05	0.35	0.05	0.8	0.05	0.48	0.05	0.05	0.05						
Benzo(b)fluoranthene	0.1	25	0.05	4.5	0	7.6	1.56	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.38	0.05	0.91	0.05	0.52	0.05	0.05	0.05						
Benzo(ghi)perylene	0.05	25	0.05	2.4	0	64	0.96	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.96	0.05	0.54	0.05	0.05	0.05						
Benzo(k)fluoranthene	0.1	25	0.05	2.3	0	12	0.84	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.23	0.05	0.53	0.05	0.37	0.05	0.05	0.05						
Chrysene	0.05	25	0.05	3.5	0	7.7	1.24	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.56	0.05	0.58	0.05	0.29	0.05	0.05	0.05						
Dibenz(a,h)anthracene	0.1	25	0.05	0.88	0	1.1	0.31	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.88	0.05	0.42	0.05	0.05	0.05						
Fluoranthene	0.1	25	0.05	7.9	0	290	2.45	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.92	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
Fluorene	0.1	25	0.05	2.3	0	170	0.60	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	2.3	0.05	0.46	0.05	0.37	0.05						
Indeno(1,2,3,cd)pyrene	0.1	25	0.05	2.2	0	4.3	0.81	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
Naphthalene	0.05	25	0.05	0.41	0	2.2	0.15	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.41	0.05	0.29	0.05	0.05	0.05						
Phenanthrene	0.1	25	0.05	5.1	0	97	1.49	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.9	0.05	1.3	0.05	0.05	0.05	0.05	0.05						
Pyrene	0.1	25	0.05	6.8	0	620	2.26	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.71	0.05	1.8	0.05	0.51	0.05	0.33	0.05						
Asbestos identified	Y/N								N	N	N	N	N	N	N	N	N	N						
FOC (dimensionless)	0.00894	**(mean)**							0.0061	0.0055	0.0095	0.0072	0.006	0.0035	0.0073	0.0049	0.0045	0.011						
SOM (calculated)	1.54%	**(mean)**							1.05%	0.95%	1.64%	1.24%	1.03%	0.60%	1.26%	0.84%	0.78%	1.90%						
pH (su)	8.0	**(mean)**							8.1	8.6	8	8.2	8.1	8.1	8	7.9	7.6	7.7						

Risk parameter: **Human health - residential with plant uptake (1%SOM)**
Data set: Capping Layer
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test																
								Soil Type	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**
								Location & Depth	**TP01**	**TP02**	**TP03**	**TP05**	**TP06**	**TP06**	**TP07**	**TP08**	**TP11**	**TP301**	**TP302**	**TP304**	**TP306**	**TP307**	**TP309**
									1	**1**	**1**	**0.3**	**0.3**	**1**	**0.5**	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.4**	**0.6**	**0.4**
Arsenic	1	25	7.2	25	0	250	18.97	POTENTIALLY SUITABLE FOR USE	11	25	7.2	22	14	14	7.6	21	21	16	12	10	12	13	12
Boron	0.2	25	0.4	2.1	0	3	1.51	POTENTIALLY SUITABLE FOR USE	1.6	1.8	0.6	1.7	0.5	1.3	0.4	1.9	2.1	0.9	0.6	0.8	0.4	0.7	0.4
Chromium (III)	1	25	9.8	38.8	0	400	30.18	POTENTIALLY SUITABLE FOR USE	18.8	38.8	9.8	38.8	21.8	26.8	14.8	38.8	38.8	23	19	25	19	19	18
Chromium (VI)	1.8	25	1.2	1.8	0	25	1.84	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Copper	1	25	8.9	190	1	135	59.30	POTENTIALLY SUITABLE FOR USE	44	190	19	23	18	43	16	30	20	18	18	26	22	37	13
Nickel	1	25	12	37	0	75	25.94	POTENTIALLY SUITABLE FOR USE	22	23	12	28	23	20	12	31	37	21	16	16	19	20	18
Zinc	1	25	37	180	0	300	103.17	POTENTIALLY SUITABLE FOR USE	180	120	73	92	67	110	47	95	78	74	130	90	52	43	41
	Mean																						
pH (su)	8.0								7.8	7.7	7.8	7.4	7.3	7.3	7.8	7.2	7.1	8.2	8.3	11.2	7.7	7.9	8.1

Risk parameter: **Plant life pH 7**
Data set: Capping Layer
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test																			
								Soil Type	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**						
								Location & Depth	**TP310**	**TP311**	**TP312**	**TP313**	**TP314**	**TP315**	**TP316**	**TP317**	**TP318**	**TP320**						
									0.9	**0.5**	**0.5**	**0.30**	**0.40**	**0.35**	**0.25**	**0.40**	**0.70**	**0.25**						
Arsenic	1	25	7.2	25	0	250	18.97	POTENTIALLY SUITABLE FOR USE	14	16	13	18	23	18	13	15	14	11						
Boron	0.2	25	0.4	2.1	0	3	1.51	POTENTIALLY SUITABLE FOR USE	0.6	0.5	2.1	0.9	0.5	0.6	0.5	0.8	1.9	0.4						
Chromium (III)	1	25	9.8	38.8	0	400	30.18	POTENTIALLY SUITABLE FOR USE	17	20	20	21.2	30.2	25.2	15.2	18.2	19.2	22.2						
Chromium (VI)	1.8	25	1.2	1.8	0	25	1.84	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8						
Copper	1	25	8.9	190	1	135	59.30	POTENTIALLY SUITABLE FOR USE	14	12	25	11	8.9	13	11	45	18	20						
Nickel	1	25	12	37	0	75	25.94	POTENTIALLY SUITABLE FOR USE	16	19	27	18	23	22	17	22	24	21						
Zinc	1	25	37	180	0	300	103.17	POTENTIALLY SUITABLE FOR USE	64	43	78	45	48	37	49	48	67	71						
	Mean																							
pH (su)	8.0								8.1	8.6	8	8.2	8.1	8.1	8	7.9	7.6	7.7						

Risk parameter: **Plant life pH 7**
Data set: Capping Layer
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW
								Soil Type	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW
								Location & Depth	BH103	BH108	BH110	BH111	TP03	TP04	TP08	TP09	TP10	TP12	TP210	TP211	TP302	TP305	TP307
									3.0	2.0	4.0	5.0	2.0	1.1	1.0	1.0	0.5	1.0	0.3-3.5	0.3-2.0	0.9	1.1	1.3
Arsenic	1	19	1	57	3	37	34.29	POTENTIALLY SUITABLE FOR USE	29	57	42	29	41	21	1	21	13	14	16	14	10	15	8
Beryllium	0.06	19	0.2	6	0	73	2.41	POTENTIALLY SUITABLE FOR USE	1	1	1.6	1.4	6	1.3	0.2	1.5	0.4	0.8	0.77	0.88	0.54	0.75	0.58
Boron	0.2	19	0.2	7.6	0	300	4.03	POTENTIALLY SUITABLE FOR USE	1.8	2	7.6	4.8	3.9	0.7	0.2	2.5	0.7	2	2.7	4.5	1	0.7	2.3
Cadmium	0.2	19	0.1	1.2	0	14	0.51	POTENTIALLY SUITABLE FOR USE	0.1	0.34	0.16	0.1	0.2	0.4	0.2	0.2	0.2	0.3	1.2	0.4	0.2	0.2	0.2
Chromium (III)	1	19	7.9	47.8	0	890	36.34	POTENTIALLY SUITABLE FOR USE	13.5	22.5	43.5	42.5	38.8	31.8	7.9	47.8	12.8	19.8	25.8	26.8	16	18	15
Chromium (VI)	1.8	19	0.5	1.8	0	6.1	1.77	POTENTIALLY SUITABLE FOR USE	0.5	0.5	0.5	0.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8
Copper	1	19	5.5	200	0	2500	78.11	POTENTIALLY SUITABLE FOR USE	8.9	11	27	11	200	28	5.5	17	12	34	97	39	17	27	18
Lead	1	19	5.9	990	1	200	313.81	FURTHER ASSESSMENT REQUIRED	16	27	37	31	990	100	5.9	22	35	82	170	44	23	76	11
Mercury, inorganic	0.3	19	0.1	1.3	0	170	0.66	POTENTIALLY SUITABLE FOR USE	0.1	0.36	0.26	0.15	0.3	0.3	1	0.3	0.3	1.3	0.4	0.3	0.3	0.3	0.3
Nickel	1	19	8.5	91	0	130	43.47	POTENTIALLY SUITABLE FOR USE	13	16	40	29	91	27	8.5	33	11	24	26	28	12	15	18
Selenium	1	19	0.2	1	0	360	1.17	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	1	1	1	1	1	1	1	1	1	1	1
Vanadium	1	19	10	90	0	410	66.50	POTENTIALLY SUITABLE FOR USE	29	40	84	87	65	56	10	90	27	32	32	38	20	31	18
Zinc	1	19	21	530	0	3900	220.85	POTENTIALLY SUITABLE FOR USE	35	76	120	64	530	180	21	77	55	130	180	81	58	140	42
Cyanide (free)	1	19	0.5	1	0	790	1.10	POTENTIALLY SUITABLE FOR USE	0.5	0.5	0.5	0.5	1	1	1	1	1	1	1	1	1	1	1
Phenol (total)	1	19	0.5	1	0	560	1.10	POTENTIALLY SUITABLE FOR USE	0.5	0.5	0.5	0.5	1	1	1	1	1	1	1	1	1	1	1
Acenaphthene	0.05	19	0.05	7.7	0	520	3.06	POTENTIALLY SUITABLE FOR USE	0.48	7.7	0.11	0.09	0.1	0.1	0.1	0.1	0.42	1.9	0.68	0.05	0.05	0.05	0.05
Acenaphthylene	0.05	19	0.05	1.8	0	430	0.71	POTENTIALLY SUITABLE FOR USE	0.5	1.1	0.05	0.08	0.1	0.1	0.1	0.1	0.1	0.29	0.32	0.05	0.05	0.05	0.05
Anthracene	0.05	19	0.05	21	0	5500	6.37	POTENTIALLY SUITABLE FOR USE	0.22	21	0.36	0.06	0.14	0.16	0.1	0.1	1	3.5	2.6	0.21	0.05	0.05	0.05
Benz(a)anthracene	0.05	19	0.05	48	3	6.7	15.46	FURTHER ASSESSMENT REQUIRED	1	48	1.2	0.31	2.6	0.77	0.1	0.1	6.6	10	9.4	1.1	0.05	0.4	0.05
Benzo(a)pyrene	0.05	19	0.05	40	7	1.5	13.66	FURTHER ASSESSMENT REQUIRED	1.4	40	1.6	0.33	3.5	0.66	0.1	0.1	7.6	11	8.1	1.1	0.05	0.57	0.05
Benzo(b)fluoranthene	0.05	19	0.05	55	2	9.4	17.75	FURTHER ASSESSMENT REQUIRED	1.1	55	1.1	0.35	4.3	0.91	0.1	0.1	7.3	11	9.3	1.1	0.05	0.6	0.05
Benzo(ghi)perylene	0.05	19	0.05	26	0	69	8.76	POTENTIALLY SUITABLE FOR USE	0.65	26	0.68	0.13	2.5	0.55	0.05	0.05	4.6	6	4	0.66	0.05	0.39	0.05
Benzo(k)fluoranthene	0.05	19	0.05	25	1	14	8.33	POTENTIALLY SUITABLE FOR USE	0.64	25	0.74	0.24	2.5	0.36	0.1	0.1	4.2	6.6	4.2	0.75	0.05	0.27	0.05
Chrysene	0.05	19	0.05	56	1	11	17.49	FURTHER ASSESSMENT REQUIRED	1.1	56	1.4	0.29	2.5	0.69	0.05	0.05	4.3	9.4	8.8	1	0.05	0.48	0.05
Dibenz(a,h)anthracene	0.05	19	0.04	5.3	2	1.3	2.35	FURTHER ASSESSMENT REQUIRED	0.09	5.3	0.04	0.09	0.33	0.1	0.1	0.1	0.76	0.87	1	0.05	0.05	0.05	0.05
Fluoranthene	0.05	19	0.05	110	0	560	34.67	POTENTIALLY SUITABLE FOR USE	2.2	110	2.6	0.73	2.3	1.3	0.1	0.1	10	25	19	2	0.05	0.68	0.05
Fluorene	0.05	19	0.05	14	0	410	5.21	POTENTIALLY SUITABLE FOR USE	0.26	9.3	0.15	0.08	0.1	0.1	0.1	0.1	0.28	1.9	0.72	0.05	0.05	0.05	0.05
Indeno(1,2,3,cd)pyrene	0.05	19	0.05	26	2	5.5	8.41	FURTHER ASSESSMENT REQUIRED	0.58	26	0.59	0.12	2.1	0.4	0.1	0.1	4.1	5.8	3.6	0.55	0.05	0.29	0.05
Naphthalene	0.05	19	0.01	2.4	0	5.2	1.11	POTENTIALLY SUITABLE FOR USE	0.06	2.3	0.02	0.01	0.05	0.05	0.05	0.05	0.05	1.3	0.05	0.05	0.05	0.05	0.05
Phenanthrene	0.05	19	0.05	75	0	220	23.74	POTENTIALLY SUITABLE FOR USE	0.99	75	1.3	0.46	0.57	0.56	0.1	0.1	3.5	18	8.4	0.69	0.05	0.21	0.05
Pyrene	0.05	19	0.05	72	0	1200	24.11	POTENTIALLY SUITABLE FOR USE	1.8	72	2	0.39	2.4	1.1	0.1	0.1	9.8	22	13	1.8	0.05	0.64	0.05
Asbestos identified	Y/N								N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N
FOC (dimensionless)	0.016763	**(mean)**							0.051	0.067	0.011	0.0083	0.031	0.012	0.001	0.011	0.011	0.011	0.02	0.028	0.0092	0.012	0.0092
SOM (calculated)	2.89%	**(mean)**							8.79%	11.55%	1.90%	1.43%	5.34%	2.07%	0.17%	1.90%	1.90%	1.90%	3.45%	4.83%	1.59%	2.07%	1.59%
pH (su)	8.2	**(mean)**							10.5	8.3	8	8	7.2	7.7	8	7.2	7.4	7.6	8	7.8	9.7	7.8	7.3

Risk parameter: **Human health - residential with plant uptake (2.5%SOM)**
Data set: Recent Construction Waste
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC) or +ve asbestos ID.

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	RCW	RCW	RCW	RCW
								Soil Type	RCW	RCW	RCW	RCW
								Location & Depth	TP309	TP312	TP315	TP320
									0.8	1.3	0.70	0.70
Arsenic	1	19	1	57	3	37	34.29	POTENTIALLY SUITABLE FOR USE	20	17	12	12
Beryllium	0.06	19	0.2	6	0	73	2.41	POTENTIALLY SUITABLE FOR USE	1.1	1	1.1	0.66
Boron	0.2	19	0.2	7.6	0	300	4.03	POTENTIALLY SUITABLE FOR USE	0.7	0.9	0.5	0.3
Cadmium	0.2	19	0.1	1.2	0	14	0.51	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2
Chromium (III)	1	19	7.9	47.8	0	890	36.34	POTENTIALLY SUITABLE FOR USE	26	29	18.2	13.2
Chromium (VI)	1.8	19	0.5	1.8	0	6.1	1.77	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8
Copper	1	19	5.5	200	0	2500	78.11	POTENTIALLY SUITABLE FOR USE	23	24	9.6	19
Lead	1	19	5.9	990	1	200	313.81	FURTHER ASSESSMENT REQUIRED	22	31	19	25
Mercury, inorganic	0.3	19	0.1	1.3	0	170	0.66	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3
Nickel	1	19	8.5	91	0	130	43.47	POTENTIALLY SUITABLE FOR USE	35	22	17	14
Selenium	1	19	0.2	1	0	360	1.17	POTENTIALLY SUITABLE FOR USE	1	1	1	1
Vanadium	1	19	10	90	0	410	66.50	POTENTIALLY SUITABLE FOR USE	45	53	29	23
Zinc	1	19	21	530	0	3900	220.85	POTENTIALLY SUITABLE FOR USE	81	100	46	58
Cyanide (free)	1	19	0.5	1	0	790	1.10	POTENTIALLY SUITABLE FOR USE	1	1	1	1
Phenol (total)	1	19	0.5	1	0	560	1.10	POTENTIALLY SUITABLE FOR USE	1	1	1	1
Acenaphthene	0.05	19	0.05	7.7	0	520	3.06	POTENTIALLY SUITABLE FOR USE	0.05	0.05	5.8	0.05
Acenaphthylene	0.05	19	0.05	1.8	0	430	0.71	POTENTIALLY SUITABLE FOR USE	0.05	0.05	1.8	0.05
Anthracene	0.05	19	0.05	21	0	5500	6.37	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05
Benz(a)anthracene	0.05	19	0.05	48	3	6.7	15.46	FURTHER ASSESSMENT REQUIRED	0.05	0.14	2.7	0.05
Benzo(a)pyrene	0.05	19	0.05	40	7	1.5	13.66	FURTHER ASSESSMENT REQUIRED	0.05	0.05	7.1	0.05
Benzo(b)fluoranthene	0.05	19	0.05	55	2	9.4	17.75	FURTHER ASSESSMENT REQUIRED	0.05	0.05	5.9	0.7
Benzo(ghi)perylene	0.05	19	0.05	26	0	69	8.76	POTENTIALLY SUITABLE FOR USE	0.05	0.05	5.7	0.67
Benzo(k)fluoranthene	0.05	19	0.05	25	1	14	8.33	POTENTIALLY SUITABLE FOR USE	0.05	0.05	3.1	0.05
Chrysene	0.05	19	0.05	56	1	11	17.49	FURTHER ASSESSMENT REQUIRED	0.05	0.24	3.6	0.57
Dibenz(a,h)anthracene	0.05	19	0.04	5.3	2	1.3	2.35	FURTHER ASSESSMENT REQUIRED	0.05	0.05	5.1	0.05
Fluoranthene	0.05	19	0.05	110	0	560	34.67	POTENTIALLY SUITABLE FOR USE	0.05	0.28	0.68	0.05
Fluorene	0.05	19	0.05	14	0	410	5.21	POTENTIALLY SUITABLE FOR USE	0.05	0.05	14	1.5
Indeno(1,2,3,cd)pyrene	0.05	19	0.05	26	2	5.5	8.41	FURTHER ASSESSMENT REQUIRED	0.05	0.05	2.3	0.05
Naphthalene	0.05	19	0.01	2.4	0	5.2	1.11	POTENTIALLY SUITABLE FOR USE	0.05	0.05	2.4	0.05
Phenanthrene	0.05	19	0.05	75	0	220	23.74	POTENTIALLY SUITABLE FOR USE	0.05	0.05	12	0.05
Pyrene	0.05	19	0.05	72	0	1200	24.11	POTENTIALLY SUITABLE FOR USE	0.05	0.25	11	1.6
Asbestos identified	Y/N								N	Y	N	N
FOC (dimensionless)	0.016763	**(mean)**							0.0031	0.0067	0.0089	0.0071
SOM (calculated)	2.89%	**(mean)**							0.53%	1.16%	1.53%	1.22%
pH (su)	8.2	**(mean)**							7.9	10.9	8.1	8.2

Risk parameter: **Human health - residential with plant uptake (2.5%SOM)**
Data set: Recent Construction Waste
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW	RCW
								Location & Depth	BH103	BH108	BH110	BH111	TP03	TP04	TP08	TP09	TP10	TP12	TP210	TP211	TP302	TP305	TP307
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**3**	**2**	**4**	**5**	**2**	**1.1**	**1**	**1**	**0.5**	**1**	**0.3-3.5**	**0.3-2.0**	**0.9**	**1.1**	**1.3**
Arsenic	1	19	1	57	0	250	34.29	POTENTIALLY SUITABLE FOR USE	29	57	42	29	41	21	1	21	13	14	16	14	10	15	8
Boron	0.2	19	0.2	7.6	4	3	4.03	FURTHER ASSESSMENT REQUIRED	1.8	2	7.6	4.8	3.9	0.7	0.2	2.5	0.7	2	2.7	4.5	1	0.7	2.3
Chromium (III)	1	19	7.9	47.8	0	400	36.34	POTENTIALLY SUITABLE FOR USE	13.5	22.5	43.5	42.5	38.8	31.8	7.9	47.8	12.8	19.8	25.8	26.8	16	18	15
Chromium (VI)	1.8	19	0.5	1.8	0	25	1.77	POTENTIALLY SUITABLE FOR USE	0.5	0.5	0.5	0.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8
Copper	1	19	5.5	200	1	200	78.11	POTENTIALLY SUITABLE FOR USE	8.9	11	27	11	200	28	5.5	17	12	34	97	39	17	27	18
Nickel	1	19	8.5	91	0	110	43.47	POTENTIALLY SUITABLE FOR USE	13	16	40	29	91	27	8.5	33	11	24	26	28	12	15	18
Zinc	1	19	21	530	1	300	220.85	POTENTIALLY SUITABLE FOR USE	35	76	120	64	530	180	21	77	55	130	180	81	58	140	42
	Mean																						
pH (su)	8.2								10.5	8.3	8	8	7.2	7.7	8	7.2	7.4	7.6	8	7.8	9.7	7.8	7.3

Risk parameter: **Plant life pH >7**
Data set: Recent Construction Waste
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	RCW	RCW	RCW	RCW												
								Location & Depth	TP309	TP312	TP315	TP320												
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.8**	**1.3**	**0.70**	**0.70**												
Arsenic	1	19	1	57	0	250	34.29	POTENTIALLY SUITABLE FOR USE	20	17	12	12												
Boron	0.2	19	0.2	7.6	4	3	4.03	FURTHER ASSESSMENT REQUIRED	0.7	0.9	0.5	0.3												
Chromium (III)	1	19	7.9	47.8	0	400	36.34	POTENTIALLY SUITABLE FOR USE	26	29	18.2	13.2												
Chromium (VI)	1.8	19	0.5	1.8	0	25	1.77	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8												
Copper	1	19	5.5	200	1	200	78.11	POTENTIALLY SUITABLE FOR USE	23	24	9.6	19												
Nickel	1	19	8.5	91	0	110	43.47	POTENTIALLY SUITABLE FOR USE	35	22	17	14												
Zinc	1	19	21	530	1	300	220.85	POTENTIALLY SUITABLE FOR USE	81	100	46	58												
	Mean																							
pH (su)	8.2								7.9	10.9	8.1	8.2												

Risk parameter: **Plant life pH >7**
Data set: Recent Construction Waste
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

						Soil Type	TS	CL
All values in mg/kg unless otherwise stated						Location & Depth	TP319	TP319
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**0.10**	**0.25**
Arsenic	1	2	14	21	0	37	14	21
Beryllium	0.06	2	1.2	1.5	0	73	1.2	1.5
Boron	0.2	2	0.3	4	0	300	4	0.3
Cadmium	0.2	2	0.9	1.1	0	14	1.1	0.9
Chromium (III)	1	2	47.2	86.2	0	890	47.2	86.2
Chromium (VI)	1.8	2	1.8	1.8	0	6.1	1.8	1.8
Copper	1	2	43	64	0	2500	43	64
Lead	1	2	93	190	0	200	93	190
Mercury, inorganic	0.3	2	0.3	0.3	0	170	0.3	0.3
Nickel	1	2	36	56	0	130	36	56
Selenium	1	2	1	1	0	360	1	1
Vanadium	1	2	33	45	0	410	33	45
Zinc	1	2	200	210	0	3900	210	200
Cyanide (free)	1	2	1	1	0	790	1	1
Phenol (total)	1	2	1	1	0	560	1	1
Acenaphthene	0.05	2	0.05	0.05	0	520	0.05	0.05
Acenaphthylene	0.05	2	0.05	1.4	0	430	1.4	0.05
Anthracene	0.05	2	0.05	0.26	0	5500	0.26	0.05
Benz(a)anthracene	0.05	2	0.05	2.3	0	6.7	2.3	0.05
Benzo(a)pyrene	0.05	2	2.5	7.4	2	1.5	7.4	2.5
Benzo(b)fluoranthene	0.05	2	2.9	5.1	0	9.4	5.1	2.9
Benzo(ghi)perylene	0.05	2	3.2	5.7	0	69	5.7	3.2
Benzo(k)fluoranthene	0.05	2	2	3.3	0	14	3.3	2
Chrysene	0.05	2	1.5	2.3	0	11	2.3	1.5
Dibenz(a,h)anthracene	0.05	2	1.9	4.2	2	1.3	4.2	1.9
Fluoranthene	0.05	2	0.47	0.79	0	560	0.79	0.47
Fluorene	0.05	2	4.2	14	0	410	14	4.2
Indeno(1,2,3,cd)pyrene	0.05	2	0.05	1.2	0	5.5	1.2	0.05
Naphthalene	0.05	2	1.7	2.6	0	5.2	2.6	1.7
Phenanthrene	0.05	2	1.2	9.5	0	220	9.5	1.2
Pyrene	0.05	2	4	13	0	1200	13	4
Asbestos identified	Y/N						N	N
FOC (dimensionless)	0.0255	**(mean)**					0.031	0.02
SOM (calculated)	4.40%	**(mean)**					5.34%	3.45%
pH (su)	8.3	**(mean)**					8.1	8.4

Risk parameter: **Human health - residential with plant uptake (2.5%SOM)**
Data set: Location TP319 - Topsoil & Capping Layer
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: 22-69534

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

						Soil Type	TS	CL													
All values in mg/kg unless otherwise stated						Location & Depth	TP319	TP319													
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**0.10**	**0.25**													
Arsenic	1	2	14	21	0	250	14	21													
Boron	0.2	2	0.3	4	1	3	4	0.3													
Chromium (III)	1	2	47.2	86.2	0	400	47.2	86.2													
Chromium (VI)	1.8	2	1.8	1.8	0	25	1.8	1.8													
Copper	1	2	43	64	0	200	43	64													
Nickel	1	2	36	56	0	110	36	56													
Zinc	1	2	200	210	0	300	210	200													
	Mean																				
pH (su)	8.3						8.1	8.4													

Risk parameter: **Plant life pH >7**
Data set: Location TP319 - Topsoil & Capping Layer
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: 22-69534

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test															
								Soil Type	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**
								Location & Depth	**TP01**	**TP02**	**TP03**	**TP05**	**TP06**	**TP06**	**TP07**	**TP08**	**TP11**	**TP301**	**TP302**	**TP304**	**TP306**	**TP307**	**TP309**
									1.0	**1.0**	**1.0**	**0.3**	**0.3**	**1.0**	**0.5**	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.4**	**0.6**	**0.4**
Arsenic	1	37	1	25	0	37	18.10	POTENTIALLY SUITABLE FOR USE	11	25	7.2	22	14	14	7.6	21	21	16	12	10	12	13	12
Beryllium	0.06	37	0.2	1.5	0	73	1.06	POTENTIALLY SUITABLE FOR USE	1	1	0.5	1.2	0.7	0.7	0.4	1.2	1.3	0.95	0.72	0.74	0.78	0.8	0.85
Boron	0.2	37	0.2	2.5	0	300	1.47	POTENTIALLY SUITABLE FOR USE	1.6	1.8	0.6	1.7	0.5	1.3	0.4	1.9	2.1	0.9	0.6	0.8	0.4	0.7	0.4
Cadmium	0.2	37	0.2	3.1	0	14	0.66	POTENTIALLY SUITABLE FOR USE	0.8	3.1	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chromium (III)	1	37	7.9	47.8	0	890	28.97	POTENTIALLY SUITABLE FOR USE	18.8	38.8	9.8	38.8	21.8	26.8	14.8	38.8	38.8	23	19	25	19	19	18
Chromium (VI)	1.8	37	1.2	1.8	0	6.1	1.78	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Copper	1	37	5.5	190	0	2500	46.74	POTENTIALLY SUITABLE FOR USE	44	190	19	23	18	43	16	30	20	18	18	26	22	37	13
Lead	1	37	5.9	120	0	200	64.59	POTENTIALLY SUITABLE FOR USE	99	69	52	110	40	120	32	64	24	110	19	44	19	21	16
Mercury, inorganic	0.3	37	0.3	1.3	0	170	0.53	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nickel	1	37	8.5	37	0	130	25.38	POTENTIALLY SUITABLE FOR USE	22	23	12	28	23	20	12	31	37	21	16	16	19	20	18
Selenium	1	37	1	1	0	360	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vanadium	1	37	10	90	0	410	51.89	POTENTIALLY SUITABLE FOR USE	27	73	16	76	42	44	20	75	75	41	36	29	24	24	23
Zinc	1	37	21	180	0	3900	103.78	POTENTIALLY SUITABLE FOR USE	180	120	73	92	67	110	47	95	78	74	130	90	52	43	41
Cyanide (free)	1	37	1	1	0	790	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phenol (total)	1	37	1	1	0	290	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acenaphthene	0.1	37	0.05	5.8	0	220	0.99	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.05	0.05	0.05	0.05	0.05
Acenaphthylene	0.1	37	0.05	1.8	0	180	0.36	POTENTIALLY SUITABLE FOR USE	0.32	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.59	0.05	0.05	0.05	0.05	0.05
Anthracene	0.1	37	0.05	3.5	0	2400	0.67	POTENTIALLY SUITABLE FOR USE	0.66	0.1	0.1	0.27	0.1	0.18	0.1	0.1	0.1	1.1	0.05	0.05	0.05	0.05	0.05
Benz(a)anthracene	0.1	37	0.05	10	3	4.2	2.40	POTENTIALLY SUITABLE FOR USE	3.2	0.38	0.1	0.84	0.1	1.2	0.1	0.27	0.25	4.6	0.05	0.5	0.05	0.05	0.05
Benzo(a)pyrene	0.1	37	0.05	11	6	1.5	2.95	FURTHER ASSESSMENT REQUIRED	3.6	0.61	0.1	0.69	0.1	1.5	0.1	0.27	0.24	5.3	0.05	0.45	0.05	0.05	0.05
Benzo(b)fluoranthene	0.1	37	0.05	11	1	7.6	2.83	POTENTIALLY SUITABLE FOR USE	3.6	0.64	0.1	0.76	0.1	1.6	0.1	0.33	0.24	4.5	0.05	0.53	0.05	0.05	0.05
Benzo(ghi)perylene	0.05	37	0.05	6	0	64	1.84	POTENTIALLY SUITABLE FOR USE	2.4	0.42	0.05	0.45	0.05	1	0.05	0.05	0.05	2.4	0.05	0.32	0.05	0.05	0.05
Benzo(k)fluoranthene	0.1	37	0.05	6.6	0	12	1.61	POTENTIALLY SUITABLE FOR USE	1.9	0.26	0.1	0.49	0.1	0.96	0.1	0.15	0.17	2.3	0.05	0.29	0.05	0.05	0.05
Chrysene	0.05	37	0.05	9.4	1	7.7	2.15	POTENTIALLY SUITABLE FOR USE	2.9	0.4	0.05	0.73	0.05	1.2	0.05	0.27	0.18	3.5	0.05	0.56	0.05	0.05	0.05
Dibenz(a,h)anthracene	0.1	37	0.05	5.1	1	1.1	0.90	POTENTIALLY SUITABLE FOR USE	0.39	0.1	0.1	0.1	0.1	0.19	0.1	0.1	0.1	0.41	0.05	0.05	0.05	0.05	0.05
Fluoranthene	0.1	37	0.05	25	0	290	4.83	POTENTIALLY SUITABLE FOR USE	5.4	0.41	0.1	1.8	0.1	1.8	0.1	0.38	0.27	7.9	0.05	1	0.05	0.05	0.05
Fluorene	0.1	37	0.05	14	0	170	2.29	POTENTIALLY SUITABLE FOR USE	0.21	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.44	0.05	0.05	0.05	0.05	0.05
Indeno(1,2,3,cd)pyrene	0.1	37	0.05	5.8	1	4.3	1.45	POTENTIALLY SUITABLE FOR USE	2.2	0.4	0.1	0.4	0.1	0.88	0.1	0.1	0.1	2.1	0.05	0.24	0.05	0.05	0.05
Naphthalene	0.05	37	0.05	2.4	1	2.2	0.47	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Phenanthrene	0.1	37	0.05	18	0	97	3.84	POTENTIALLY SUITABLE FOR USE	2.3	0.2	0.1	1.1	0.1	0.49	0.1	0.1	0.1	5.1	0.05	0.75	0.05	0.05	0.05
Pyrene	0.1	37	0.05	22	0	620	4.91	POTENTIALLY SUITABLE FOR USE	5	0.42	0.1	1.5	0.1	1.6	0.1	0.39	0.27	6.8	0.05	0.93	0.05	0.05	0.05
Asbestos identified	Y/N								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
FOC (dimensionless)	0.008803	**(mean)**							0.019	0.0081	0.0009	0.011	0.0094	0.011	0.0007	0.016	0.013	0.013	0.024	0.0085	0.0082	0.0053	0.0099
SOM (calculated)	1.52%	**(mean)**							3.28%	1.40%	0.16%	1.90%	1.62%	1.90%	0.12%	2.76%	2.24%	2.24%	4.14%	1.47%	1.41%	0.91%	1.71%
pH (su)	8.0	**(mean)**							7.8	7.7	7.8	7.4	7.3	7.3	7.8	7.2	7.1	8.2	8.3	11.2	7.7	7.9	8.1

Risk parameter: **Human health - residential with plant uptake (1%SOM)**
Data set: Capping Layer & Shallow Recent Constructon Waste (Upper 1.3m bgl)
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC) or +ve asbestos ID.

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test																	
								Soil Type	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	RCW	RCW	RCW	RCW	RCW	RCW
								Location & Depth	TP310	TP311	TP312	TP313	TP314	TP315	TP316	TP317	TP318	TP320	TP04	TP08	TP09	TP10	TP12	TP302
									0.9	0.5	0.5	0.30	0.40	0.35	0.25	0.40	0.70	0.25	1.10	1.00	1.00	0.50	1.00	0.90
Arsenic	1	37	1	25	0	37	18.10	POTENTIALLY SUITABLE FOR USE	14	16	13	18	23	18	13	15	14	11	21	1	21	13	14	10
Beryllium	0.06	37	0.2	1.5	0	73	1.06	POTENTIALLY SUITABLE FOR USE	0.65	0.86	0.82	0.92	1.1	1.3	0.75	0.99	0.82	0.78	1.3	0.2	1.5	0.4	0.8	0.54
Boron	0.2	37	0.2	2.5	0	300	1.47	POTENTIALLY SUITABLE FOR USE	0.6	0.5	2.1	0.9	0.5	0.6	0.5	0.8	1.9	0.4	0.7	0.2	2.5	0.7	2	1
Cadmium	0.2	37	0.2	3.1	0	14	0.66	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.4	0.2	0.2	0.2	0.3	0.2
Chromium (III)	1	37	7.9	47.8	0	890	28.97	POTENTIALLY SUITABLE FOR USE	17	20	20	21.2	30.2	25.2	15.2	18.2	19.2	22.2	31.8	7.9	47.8	12.8	19.8	16
Chromium (VI)	1.8	37	1.2	1.8	0	6.1	1.78	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.8
Copper	1	37	5.5	190	0	2500	46.74	POTENTIALLY SUITABLE FOR USE	14	12	25	11	8.9	13	11	45	18	20	28	5.5	17	12	34	17
Lead	1	37	5.9	120	0	200	64.59	POTENTIALLY SUITABLE FOR USE	38	16	31	22	21	17	27	41	20	23	100	5.9	22	35	82	23
Mercury, inorganic	0.3	37	0.3	1.3	0	170	0.53	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1	0.3	0.3	1.3	0.3
Nickel	1	37	8.5	37	0	130	25.38	POTENTIALLY SUITABLE FOR USE	16	19	27	18	23	22	17	22	24	21	27	8.5	33	11	24	12
Selenium	1	37	1	1	0	360	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vanadium	1	37	10	90	0	410	51.89	POTENTIALLY SUITABLE FOR USE	28	26	36	39	60	36	23	27	35	37	56	10	90	27	32	20
Zinc	1	37	21	180	0	3900	103.78	POTENTIALLY SUITABLE FOR USE	64	43	78	45	48	37	49	48	67	71	180	21	77	55	130	58
Cyanide (free)	1	37	1	1	0	790	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phenol (total)	1	37	1	1	0	290	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acenaphthene	0.1	37	0.05	5.8	0	220	0.99	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.42	1.9	0.05
Acenaphthylene	0.1	37	0.05	1.8	0	180	0.36	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.29	0.05
Anthracene	0.1	37	0.05	3.5	0	2400	0.67	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.16	0.1	0.1	1	3.5	0.05
Benz(a)anthracene	0.1	37	0.05	10	3	4.2	2.40	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.43	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.77	0.1	0.1	6.6	10	0.05
Benzo(a)pyrene	0.1	37	0.05	11	6	1.5	2.95	FURTHER ASSESSMENT REQUIRED	0.05	0.05	0.35	0.05	0.8	0.05	0.48	0.05	0.05	0.05	0.66	0.1	0.1	7.6	11	0.05
Benzo(b)fluoranthene	0.1	37	0.05	11	1	7.6	2.83	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.38	0.05	0.91	0.05	0.52	0.05	0.05	0.05	0.91	0.1	0.1	7.3	11	0.05
Benzo(ghi)perylene	0.05	37	0.05	6	0	64	1.84	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.96	0.05	0.54	0.05	0.05	0.05	0.55	0.05	0.05	4.6	6	0.05
Benzo(k)fluoranthene	0.1	37	0.05	6.6	0	12	1.61	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.23	0.05	0.53	0.05	0.37	0.05	0.05	0.05	0.36	0.1	0.1	4.2	6.6	0.05
Chrysene	0.05	37	0.05	9.4	1	7.7	2.15	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.56	0.05	0.58	0.05	0.29	0.05	0.05	0.05	0.69	0.05	0.05	4.3	9.4	0.05
Dibenz(a,h)anthracene	0.1	37	0.05	5.1	1	1.1	0.90	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.88	0.05	0.42	0.05	0.05	0.05	0.1	0.1	0.1	0.76	0.87	0.05
Fluoranthene	0.1	37	0.05	25	0	290	4.83	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.92	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.3	0.1	0.1	10	25	0.05
Fluorene	0.1	37	0.05	14	0	170	2.29	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	2.3	0.05	0.46	0.05	0.37	0.05	0.1	0.1	0.1	0.28	1.9	0.05
Indeno(1,2,3,cd)pyrene	0.1	37	0.05	5.8	1	4.3	1.45	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.4	0.1	0.1	4.1	5.8	0.05
Naphthalene	0.05	37	0.05	2.4	1	2.2	0.47	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.41	0.05	0.29	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.3	0.05
Phenanthrene	0.1	37	0.05	18	0	97	3.84	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.9	0.05	1.3	0.05	0.05	0.05	0.05	0.05	0.56	0.1	0.1	3.5	18	0.05
Pyrene	0.1	37	0.05	22	0	620	4.91	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.71	0.05	1.8	0.05	0.51	0.05	0.33	0.05	1.1	0.1	0.1	9.8	22	0.05
Asbestos identified	Y/N								N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
FOC (dimensionless)	0.008803	**(mean)**							0.0061	0.0055	0.0095	0.0072	0.006	0.0035	0.0073	0.0049	0.0045	0.011	0.012	0.001	0.011	0.011	0.011	0.0092
SOM (calculated)	1.52%	**(mean)**							1.05%	0.95%	1.64%	1.24%	1.03%	0.60%	1.26%	0.84%	0.78%	1.90%	2.07%	0.17%	1.90%	1.90%	1.90%	1.59%
pH (su)	8.0	**(mean)**							8.1	8.6	8	8.2	8.1	8.1	8	7.9	7.6	7.7	7.7	8	7.2	7.4	7.6	9.7

Risk parameter: **Human health - residential with plant uptake (1%SOM)**
Data set: Capping Layer & Shallow Recent Constructon Waste (Upper 1.3m bgl)
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	RCW	RCW	RCW	RCW	RCW	RCW
								Soil Type	RCW	RCW	RCW	RCW	RCW	RCW
								Location & Depth	TP305	TP307	TP309	TP312	TP315	TP320
									1.10	1.30	0.80	1.3	0.70	0.70
Arsenic	1	37	1	25	0	37	18.10	POTENTIALLY SUITABLE FOR USE	15	8	20	17	12	12
Beryllium	0.06	37	0.2	1.5	0	73	1.06	POTENTIALLY SUITABLE FOR USE	0.75	0.58	1.1	1	1.1	0.66
Boron	0.2	37	0.2	2.5	0	300	1.47	POTENTIALLY SUITABLE FOR USE	0.7	2.3	0.7	0.9	0.5	0.3
Cadmium	0.2	37	0.2	3.1	0	14	0.66	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2
Chromium (III)	1	37	7.9	47.8	0	890	28.97	POTENTIALLY SUITABLE FOR USE	18	15	26	29	18.2	13.2
Chromium (VI)	1.8	37	1.2	1.8	0	6.1	1.78	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8	1.8	1.8
Copper	1	37	5.5	190	0	2500	46.74	POTENTIALLY SUITABLE FOR USE	27	18	23	24	9.6	19
Lead	1	37	5.9	120	0	200	64.59	POTENTIALLY SUITABLE FOR USE	76	11	22	31	19	25
Mercury, inorganic	0.3	37	0.3	1.3	0	170	0.53	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3
Nickel	1	37	8.5	37	0	130	25.38	POTENTIALLY SUITABLE FOR USE	15	18	35	22	17	14
Selenium	1	37	1	1	0	360	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1
Vanadium	1	37	10	90	0	410	51.89	POTENTIALLY SUITABLE FOR USE	31	18	45	53	29	23
Zinc	1	37	21	180	0	3900	103.78	POTENTIALLY SUITABLE FOR USE	140	42	81	100	46	58
Cyanide (free)	1	37	1	1	0	790	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1
Phenol (total)	1	37	1	1	0	290	1.00	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1
Acenaphthene	0.1	37	0.05	5.8	0	220	0.99	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	5.8	0.05
Acenaphthylene	0.1	37	0.05	1.8	0	180	0.36	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	1.8	0.05
Anthracene	0.1	37	0.05	3.5	0	2400	0.67	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05
Benz(a)anthracene	0.1	37	0.05	10	3	4.2	2.40	POTENTIALLY SUITABLE FOR USE	0.4	0.05	0.05	0.14	2.7	0.05
Benzo(a)pyrene	0.1	37	0.05	11	6	1.5	2.95	FURTHER ASSESSMENT REQUIRED	0.57	0.05	0.05	0.05	7.1	0.05
Benzo(b)fluoranthene	0.1	37	0.05	11	1	7.6	2.83	POTENTIALLY SUITABLE FOR USE	0.6	0.05	0.05	0.05	5.9	0.7
Benzo(ghi)perylene	0.05	37	0.05	6	0	64	1.84	POTENTIALLY SUITABLE FOR USE	0.39	0.05	0.05	0.05	5.7	0.67
Benzo(k)fluoranthene	0.1	37	0.05	6.6	0	12	1.61	POTENTIALLY SUITABLE FOR USE	0.27	0.05	0.05	0.05	3.1	0.05
Chrysene	0.05	37	0.05	9.4	1	7.7	2.15	POTENTIALLY SUITABLE FOR USE	0.48	0.05	0.05	0.24	3.6	0.57
Dibenz(a,h)anthracene	0.1	37	0.05	5.1	1	1.1	0.90	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	5.1	0.05
Fluoranthene	0.1	37	0.05	25	0	290	4.83	POTENTIALLY SUITABLE FOR USE	0.68	0.05	0.05	0.28	0.68	0.05
Fluorene	0.1	37	0.05	14	0	170	2.29	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	14	1.5
Indeno(1,2,3,cd)pyrene	0.1	37	0.05	5.8	1	4.3	1.45	POTENTIALLY SUITABLE FOR USE	0.29	0.05	0.05	0.05	2.3	0.05
Naphthalene	0.05	37	0.05	2.4	1	2.2	0.47	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	2.4	0.05
Phenanthrene	0.1	37	0.05	18	0	97	3.84	POTENTIALLY SUITABLE FOR USE	0.21	0.05	0.05	0.05	12	0.05
Pyrene	0.1	37	0.05	22	0	620	4.91	POTENTIALLY SUITABLE FOR USE	0.64	0.05	0.05	0.25	11	1.6
Asbestos identified	Y/N								N	N	N	Y	N	N
FOC (dimensionless)	0.008803	**(mean)**							0.012	0.0092	0.0031	0.0067	0.0089	0.0071
SOM (calculated)	1.52%	**(mean)**							2.07%	1.59%	0.53%	1.16%	1.53%	1.22%
pH (su)	8.0	**(mean)**							7.8	7.3	7.9	10.9	8.1	8.2

Risk parameter: **Human health - residential with plant uptake (1%SOM)**
Data set: Capping Layer & Shallow Recent Constructon Waste (Upper 1.3m bgl)
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
								Location & Depth	**TP01**	**TP02**	**TP03**	**TP05**	**TP06**	**TP06**	**TP07**	**TP08**	**TP11**	**TP301**	**TP302**	**TP304**	**TP306**	**TP307**	**TP309**
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**1**	**1**	**1**	**0.3**	**0.3**	**1**	**0.5**	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.4**	**0.6**	**0.4**
Arsenic	1	37	1	25	0	250	18.10	POTENTIALLY SUITABLE FOR USE	11	25	7.2	22	14	14	7.6	21	21	16	12	10	12	13	12
Boron	0.2	37	0.2	2.5	0	3	1.47	POTENTIALLY SUITABLE FOR USE	1.6	1.8	0.6	1.7	0.5	1.3	0.4	1.9	2.1	0.9	0.6	0.8	0.4	0.7	0.4
Chromium (III)	1	37	7.9	47.8	0	400	28.97	POTENTIALLY SUITABLE FOR USE	18.8	38.8	9.8	38.8	21.8	26.8	14.8	38.8	38.8	23	19	25	19	19	18
Chromium (VI)	1.8	37	1.2	1.8	0	25	1.78	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Copper	1	37	5.5	190	1	135	46.74	POTENTIALLY SUITABLE FOR USE	44	190	19	23	18	43	16	30	20	18	18	26	22	37	13
Nickel	1	37	8.5	37	0	75	25.38	POTENTIALLY SUITABLE FOR USE	22	23	12	28	23	20	12	31	37	21	16	16	19	20	18
Zinc	1	37	21	180	0	300	103.78	POTENTIALLY SUITABLE FOR USE	180	120	73	92	67	110	47	95	78	74	130	90	52	43	41
	Mean																						
pH (su)	8.0								7.8	7.7	7.8	7.4	7.3	7.3	7.8	7.2	7.1	8.2	8.3	11.2	7.7	7.9	8.1

Risk parameter: **Plant life pH 7**
Data set: Capping Layer & Shallow Recent Constructon Waste (Upper 1.3m bgl)
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test																		
								Soil Type	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**CL**	**RCW**	**RCW**	**RCW**	**RCW**	**RCW**	**RCW**
								Location & Depth	**TP310**	**TP311**	**TP312**	**TP313**	**TP314**	**TP315**	**TP316**	**TP317**	**TP318**	**TP320**	**TP04**	**TP08**	**TP09**	**TP10**	**TP12**	**TP302**
									0.9	**0.5**	**0.5**	**0.30**	**0.40**	**0.35**	**0.25**	**0.40**	**0.70**	**0.25**	**1.1**	**1**	**1**	**0.5**	**1**	**0.9**
Arsenic	1	37	1	25	0	250	18.10	POTENTIALLY SUITABLE FOR USE	14	16	13	18	23	18	13	15	14	11	21	1	21	13	14	10
Boron	0.2	37	0.2	2.5	0	3	1.47	POTENTIALLY SUITABLE FOR USE	0.6	0.5	2.1	0.9	0.5	0.6	0.5	0.8	1.9	0.4	0.7	0.2	2.5	0.7	2	1
Chromium (III)	1	37	7.9	47.8	0	400	28.97	POTENTIALLY SUITABLE FOR USE	17	20	20	21.2	30.2	25.2	15.2	18.2	19.2	22.2	31.8	7.9	47.8	12.8	19.8	16
Chromium (VI)	1.8	37	1.2	1.8	0	25	1.78	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.8
Copper	1	37	5.5	190	1	135	46.74	POTENTIALLY SUITABLE FOR USE	14	12	25	11	8.9	13	11	45	18	20	28	5.5	17	12	34	17
Nickel	1	37	8.5	37	0	75	25.38	POTENTIALLY SUITABLE FOR USE	16	19	27	18	23	22	17	22	24	21	27	8.5	33	11	24	12
Zinc	1	37	21	180	0	300	103.78	POTENTIALLY SUITABLE FOR USE	64	43	78	45	48	37	49	48	67	71	180	21	77	55	130	58
	Mean																							
pH (su)	8.0								8.1	8.6	8	8.2	8.1	8.1	8	7.9	7.6	7.7	7.7	8	7.2	7.4	7.6	9.7

Risk parameter: **Plant life pH 7**
Data set: Capping Layer & Shallow Recent Constructon Waste (Upper 1.3m bgl)
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	RCW TP305 1.1	RCW TP307 1.3	RCW TP309 0.8	RCW TP312 1.3	RCW TP315 0.70	RCW TP320 0.70
Arsenic	1	37	1	25	0	250	18.10	POTENTIALLY SUITABLE FOR USE	15	8	20	17	12	12
Boron	0.2	37	0.2	2.5	0	3	1.47	POTENTIALLY SUITABLE FOR USE	0.7	2.3	0.7	0.9	0.5	0.3
Chromium (III)	1	37	7.9	47.8	0	400	28.97	POTENTIALLY SUITABLE FOR USE	18	15	26	29	18.2	13.2
Chromium (VI)	1.8	37	1.2	1.8	0	25	1.78	POTENTIALLY SUITABLE FOR USE	1.8	1.8	1.8	1.8	1.8	1.8
Copper	1	37	5.5	190	1	135	46.74	POTENTIALLY SUITABLE FOR USE	27	18	23	24	9.6	19
Nickel	1	37	8.5	37	0	75	25.38	POTENTIALLY SUITABLE FOR USE	15	18	35	22	17	14
Zinc	1	37	21	180	0	300	103.78	POTENTIALLY SUITABLE FOR USE	140	42	81	100	46	58
	Mean													
pH (su)	8.0								7.8	7.3	7.9	10.9	8.1	8.2

Risk parameter: **Plant life pH 7**
Data set: Capping Layer & Shallow Recent Constructon Waste (Upper 1.3m bgl)
Client: The Hills Group Ltd.
Site: Wroughton Closed Landfill
Job no.: 02753
Lab. report no(s).: Various