



GEOTECHNICAL
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Geo-environmental Assessment

Vistry Group

Nottingham City Airport, Tollerton.

May 2022

Ref: PJSG21-55-RT-02

Executive Summary

Environmental Risk Assessment Summary	
Human Health Risk Assessment	<u>Contamination Sources:</u> Elevated concentrations of PAHs and metals have been encountered in encountered in samples of shallow Made Ground (granular sub-base materials and cohesive Made Ground) encountered within areas adjacent to hangars, runways and former aircraft aprons. Elevated concentrations of PAH's were also detected within the Topsoil in the vicinity of the firefighting area. PFOS and PFOA has been identified above the limit of detection in samples of both the topsoil and subsoil in this area. In addition to the above, the potential exists for unidentified contamination to be present in areas of the site that could not be accessed during this investigation (such as under buildings / runways / near to buried fuel tanks etc) and these should be assessed prior to construction. <u>Remediation / Mitigation Measures</u> It is recommended that asphalt and any shallow sub-base material is excavated and re-used in less sensitive areas of the site such as under roads / pavements / under areas of hard standing. Placement under hard stand proposed for the site should be sufficient to mitigate any risk to human health end users post development. It is recommended that an allowance should be made for an appropriate cover system to be incorporated in gardens / landscaped areas for the proposed development which coincides with Made Ground / firefighting area. Hard standing proposed for the remainder of the site should be sufficient to mitigate any risk to human health end users post development elsewhere
Controlled Waters Risk Assessment	Surface water and groundwater testing has confirmed that current site activities are not having any impact on surface or groundwater quality in the vicinity of or arising from the firefighting area in the east of the site. However, further assessment post demolition may be required to confirm the risk elsewhere on site.
Ground Gas	At this stage, it is considered that gas protection measures will not be required for the majority of the site. However, slightly elevated concentrations of CO2 have been identified at WS03 and WS23 localised to an existing hanger in the west of the site. Therefore, an allowance should be made for gas protection measures to be incorporated for any plots located within the vicinity of WS23 and WS03 subject to further parcel specific ground gas monitoring.
Vapour Risk	No evidence of vapours has been encountered in the off-site soils associated with the identified hydrocarbon contamination sources. However, further assessment of the on-site soils in the vicinity of the current tanks / under buildings / hard stand is recommended.
Ecological Risk	Potential Impacts from the identified contamination sources is considered negligible. However, the impact to ecological receptors from proposed construction activities should always be considered.
Geotechnical Assessment Summary	
Ground Conditions	Made Ground - Encountered localised to areas adjacent to existing buildings and areas formerly previously used as aircraft stands recovered as sandy gravel and re-worked gravelly clay proven to depths of between 0.3m and 1.1m and was generally



	• Topsoil - Encountered in the majority of exploratory hole locations across the site proven to depths of 0.1m to 0.5m (average thickness of ~0.3m). • Lacustrine Deposits - Encountered in the north east of the site recovered as soft black or blueish grey organic clay noted to contain an abundance of groundwater proven to depths of between 1.0m and 2.7m (0.7m to 2.4m thick). • Weathered Mercia Mudstone Group (MMG) Deposits - Encountered across the site recovered as firm to stiff reddish brown and mottled grey clay with lenses of weak grey siltstone from depths of between 0.10m –2.70m proven to a maximum depth of 5.0mbgl. Occasional granular layers were also encountered within the clay horizons. • MMG (Bedrock) –Recovered as a weak or extremely weak grey siltstone was encountered in 29 No. exploratory locations below the site encountered from depths of between 0.80m in the south of the site to a depth of 2.60m in the north-east of the site.
Foundations	Traditional strip / trenchfill foundations are generally considered appropriate for most of the development proposed for the site, bearing within the firm to stiff cohesive Mercia Mudstone Group deposits found to underly the majority of the site. Lacustrine Deposits were encountered in the northeast of the site noted to be very soft (SPT N Values <8 blows) of extremely low to low and medium strength. As such, traditional foundations are not recommended for the Lacustrine Deposits. An allowance for deepening foundations / alternative foundations corresponding with the Lacustrine Deposits should be made at this stage. Ground improvement techniques (such as vibro stone column ground improvement) with reinforced concrete strip foundations may provide a suitable foundation solution for plots where low SPT N values have been encountered.
Floor Slabs	Both ground bearing and suspended floor slabs may be suitable for the site, subject to developer preference and further assessment of proposed ground levels / tree influence.
Drainage	The cohesive geology encountered across the site would suggest that soakaway drainage is not considered feasible; an alternative drainage solution is therefore likely to be required. However, the local authority may request that in-situ infiltration testing is carried out prior to construction to confirm this preliminary assessment.
Concrete	• MMG Deposits- DS-1 and AC-1 should be used for design purposes. • Lacustrine Deposits- DS-4 and AC-4 should be used for design purposes. As limited testing has been carried out, further delineation and testing of in-situ Lacustrine Deposits and Made Ground materials at potential founding depth on-site is recommended prior to construction so that the appropriate concrete classification can be determined for buried concrete.
Roads & Hardstanding	Based on the ground conditions encountered, it is considered appropriate that a preliminary CBR design values of 3% to 5% should be achieved for near surface soils at the site. In-situ CBR testing is recommended at formation level once development proposals have been established.
Geological Faults & Coal Mining Subsidence.	Anecdotal evidence has arisen in relation to potential subsidence of one of the runways (21/03) on-site which is estimated to have taken place in the late 70s / early 80s. It was confirmed that the runway had to be rebuilt and it is understood that this was paid for by



	the National Coal Board as it was believed that historical mining legacy may have caused the runway to collapse. The Coal Authority Report obtained however indicates no record of this. Taking the available information into account, it is considered unlikely that deep underground mining would have impacted the site surface with regards to collapse / void migration, as the coal workings are located at significant depth beneath the site. Additionally, it is also considered unlikely that subsidence of the runway would have been caused by the collapse of historical mining activities. Further contact has since been made with the Coal Authority to assess if they have any historical Coal Board records in regard to the anecdotal evidence received. The Coal Authority have however confirmed that they only require to disclose details of claims made since 31st October 1994 with this 'cut off' date being introduced on 1st July 2011 therefore we would not hold any information prior to this date.
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UXO Risk	Supervision of excavations / boreholes by a UXO Engineer was undertaken at all times during the intrusive investigation. No evidence of UXO was encountered during the works; however, provision should be given to a wider UXO clearance exercise / supervision during any further works and during the construction phase.
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Recommendations

It would be beneficial to contact the warranty providers / building control at an early stage to assess the implication of this information on the proposed development and to assess the requirement for further investigation or to confirm any preventative measures to be incorporated into the development.

Further investigation works are recommended to be undertaken beneath existing on-site buildings, runways (including within the firefighting area) and any other areas of hard stand (post demolition). This is to confirm the depth of Made Ground to aid in foundation design and to determine the contamination status of the underlying soils and to confirm any associated risk.

It is recommended that further targeted investigation should be carried out in the area of the former sewage works to further ascertain if any buried infrastructure / associated contamination is present.

Further targeted investigation should be carried out in the area of the underground fuel storage tanks that could not be accessed during this investigation alongside underlying existing fuel storage tanks once tanks have been decommissioned to ascertain if any localised hydrocarbon contamination is present.

Further delineation and testing of in-situ Made Ground materials / Lacustrine Deposits on-site is recommended prior to construction so the appropriate concrete classification can be determined.

Further parcel specific ground gas monitoring is recommended within the vicinity of WS03 and WS23 in the west of the site once a plot layout has been established.

A remediation strategy will be required for the site and should be agreed with the Local Authority prior to implementation.

A reclamation strategy / enabling works specification will be required.

If it is proposed to transport and re-use site won materials to another development a Materials Management Plan (MMP) approved by CL:AIRE would be required to facilitate this process



Document Issue Record

Document Number	
PJS Reference	PJSG21-25-RT-02

Status	Revision	Date of Issue	Author	Checked	Approved
Final	-	17/05/22	Nicholas Brown MSc AMIEnvSc	Adrian McVey BSc (Hons)	Martin Parker BSc (Hons) ICI0B

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- Appendix B: SPT Trip Hammer Calibration Certificates
- Appendix C: Chemical Testing Results
- Appendix D: Geotechnical Testing Results
- Appendix E: Gas & Groundwater Monitoring Records
- Appendix F: UXO Risk Management Survey Report

Drawings

- PJSG21-55-DR-001 –Site Location Plan
- PJSG21-55-DR-002 –Site Features Plan
- PJSG21-55-DR-003 –Exploratory Hole Location Plan
- PJSG21-55-DR-004 –Ground Conditions Plan
- Preliminary landownership plan (4324-L-113-B)



1 Introduction

1.1 Instruction

In December 2021, PJS Geotechnical Engineers Limited (PJSG) were instructed by Vistry Group (the Client) to undertake a Geo-environmental Assessment at land at Nottingham City Airport, Tollerton (the site).

A site location plan (PJSG21-55-DR-001) is included within the drawings section of this report.

1.2 Proposed Development

Redevelopment proposals for the site are understood to comprise a residential development with gardens and areas of soft landscaping used as Public Open Space (POS); however, no set development plan is currently available.

A preliminary land ownership plan (4324-L-113-B) has however been provided by the Client and is presented within the Drawings Section of this report. The land area covered within this report is designated as the 'orange' parcel of land as indicated on the plan.

1.3 Objectives

The objectives of this assessment are detailed below:

Table 1-1 Objectives

Objectives
Confirm the suitability of the site for the proposed residential development, taking into account the ground conditions and contaminative status of the site.
Undertake a generic quantitative risk assessment to confirm the findings of the Initial Conceptual Site Model (ICSM).
Determine the ground gas regime beneath the site.
Revision of the ICSM.
Identify suitable foundation depths and sub-structure design solutions.
Identify any potential geo-environmental issues that may cause abnormal development costs.
Make recommendations for any further investigation / remediation deemed necessary.

1.4 Previous Reports

The table below provides details of the relevant information sources which have been made available to PJSG for review in preparation of this report:

Table 1-2 Information Sources

Report Reference	Produced By	Report Name	Date	Comments
PJSG21-55-RT-01	PJSG	Desk Study Report	December 2021	The report recommended that intrusive investigation of the site should be undertaken to confirm the contaminative status of the site and to determine geotechnical characteristics of the ground for foundation and drainage design.



2 The Site

This section provides a brief overview of the site in its present condition, including the site's existing layout, general location and near surrounding land use.

A brief summary of the site's description is presented below in Table 2-1. The full details of the site are presented in the Phase 1 Desk Study Report referenced in Table 1-2. A site location plan is presented in the drawings section of this report.

Table 2-1 Summary of Site Information

Specifics	Details
<i>Location</i>	Nottingham City Airport, Tollerton, Nottinghamshire, NG12 4GA.
<i>National Grid Reference</i>	462059E, 336121N.
<i>Approximate Site Area</i>	75.6 Hectares (Ha)
<i>Topography</i>	Generally flat with an incline in the north-western portion of the site.
<i>Current Land Use</i>	- The site is currently utilised as an active airport and services including air traffic services, fire and rescue, aircraft refuelling and hangarage. - The site comprises three tarmac runways with undeveloped grassland present in-between the runways. - A fire training area is present in the southeast of the site located on a disused part of a runway. - The south-western, southern, eastern and north-eastern extents of the site comprise agricultural land.
<i>Existing Buildings / Retaining Structures</i>	- A Control Tower, a fire rescue centre and a café are present in the west of the site. - Three aircraft hangers are located in the west of the site. - Numerous historic WWII pillboxes are present across the site (from the sites former use as an RAF base) and are understood to be retained during any future development proposals.
<i>Fuel Tanks / Storage</i>	- Two underground tanks are present in the west of the site adjacent to a section of runway and the control tower used for refuelling aircrafts. - A shed is located adjacent to the underground tanks used for storage of numerous plastic and metal storage drums noted to contain various oils. - An above ground fully bunded fuel storage tank containing aviation fuel, alongside a separate fuel pump are present to the north of the control tower. - An above ground oil heating system that serves the fire rescue centre is present in the west of the site. - Two above ground tanks are present in the west of the site in-between two aircraft hangers. One of the tanks is of modern construction (bunded) and currently in use for fuel storage, whilst the other is of older construction and not in use.
<i>Energy Features</i>	A wooden shed is present along the northern boundary which previously housed an electricity transformer. The transformer is however no longer present in the shed.



Specifics	Details
<i>Asbestos Containing Materials (ACMs)</i>	Several structures are present in the west of the site and the potential for ACMs to have been used in their construction cannot be discounted.
<i>Evidence of surface staining & odours</i>	• Surface staining was noted in the southeast of the site on a disused part of a runway where fire training drills are regularly undertaken. • Scorch marks were noted within a central triangle shaped area of grassland occasionally used as a runway and helicopter testing area.
<i>Anecdotal Evidence</i>	The Airport Manager informed PJSG of the following: • A light aircraft crashed into an agricultural field located in the southwest of the site in 2019. • A former sewage works was present on-site in the southwest, infrastructure associated with the sewage works may still exist but are not operational. • The above ground and underground tanks located near to the Control Tower are at least 20 years old. • Underground electric cables associated with the wooden shed in the north of the site are still present and live. • Fire training is undertaken every 2 to 3 months on a disused part of the runway in the southeast. Where possible environmentally friendly fire fighting foams are used, however this has not historically been the case.
<i>Identified Potential Contamination Sources from Reconnaissance</i>	• Possible ACMs present within structures located within the west of the site. • Potential leaks and spills of fuels / oils from aircrafts / vehicles used on tarmac / grass runways and the area in the southwest where a light aircraft crashed. • Potential leaks and spills of fuels / oils from underground and above ground tanks identified. • Potential contamination from former sewage works in the southwest. • Potential contamination from fire-fighting foams used within the training area in the southeast. • Potential PCB contamination associated with electrical infrastructure in the north of the site.
<i>Surrounding Land Use</i>	Surrounding land use predominately comprises agricultural land with a Business Park and Hospital adjacent to the western site boundary. A Caravan Park is also located to the northwest of the site.
<i>Surface Water Features (Site & Vicinity)</i>	Polser Brook is located running south to north along the eastern boundary of the site.



3 Site Setting

3.1 Summary of Desk Study Information

The desk study report (referenced in Table 1-2) has been reviewed to provide a summary of the sites setting as detailed in Table 3-1 below.

Table 3-1 Summary of Site Information

Historical Summary	
<i>Site</i>	The site remained largely undeveloped agricultural land since the earliest historical records until the creation of Nottingham Aerodrome (later referred to as Nottingham Airport) in 1930, covering the majority of the site. Two ponds were historically located in the southwest but are indicated to have been infilled in the mid-1950s. A sewage works was present within the southwest of the site by 1967; records indicate that this became disused by 1976. It is also understood that during WWII the airport was known as RAF Tollerton and was utilised as a military airfield. After the war the airport was returned to civilian use.
<i>Surrounding area</i>	The wider area surrounding the site has predominantly comprised agricultural land with localised residential and commercial development having occurred. Adjacent to the western boundary, a parcel of land was previously utilised by the Aerodrome and later operated by Sherwood Flying Group however, the land has now been developed into a hospital.
Geological Summary	
<i>Made Ground</i>	10 No. records for Made Ground are present on-site and are minor in terms of extents and generally coincide with the location of the pillboxes.
<i>Superficial Geology</i>	• No superficial deposits are recorded beneath the majority of the site. • Till (Diamicton) –Mapped localised to the northeast corner of the site • Lacustrine Deposits (Clay & Silt) –Mapped along the eastern boundary.
<i>Bedrock Geology</i>	• Arden Formation (Sandstone) –Mapped across the central, south west and north west portions of the site. • Branscombe Formation (Mudstone) –Mapped across the south and east corners of the site.
<i>Faults</i>	Ten (inferred) geological faults are recorded within the site boundaries, generally all trending in a northwest to southeast direction. The faults are indicated to downthrow both towards the northeast and southwest, dipping towards the southeast.
Hydrogeology	
<i>Aquifers</i>	• Superficial Deposits - Secondary Undifferentiated (Till and Lacustrine). • Bedrock - Secondary A (Arden Formation). • Bedrock - Secondary B (Branscombe Formation).
<i>Source Protection Zones (SPZ)</i>	No records within 500m.
<i>Potable Abstractions</i>	No records within 2km.
<i>Groundwater Flow</i>	Based on the local topography, groundwater is likely to flow to the northeast.



Hydrology		
<i>Surface Water Features</i>		Polser Brook is located running south to north along the eastern boundary of the site.
<i>Surface water flow</i>		Surface water flows generally towards the north in the brook confirmed during reconnaissance.
Mining & Ground Constraints		
<i>Mining</i>		- The site lies within a coal mining area- 8 No. seams lie at depths of 395m to 455m with the last seam worked in 1990. - A damage notice or claim for alleged subsidence damage was made in June 2010 for land at Aerodrome Farm, Tollerton, Nottingham, Nottinghamshire. The claim was rejected by the Coal Authority. - PJS had further discussions with the Coal Authority which confirmed that the claim was for disturbance / damage that had occurred on land directly adjacent to the study site. The Coal Authority rejected the claim and concluded that any damage occurred is deemed to be due to natural ground disturbance and/or heavy rainfall on cohesive strata. - Based on the available information, it was considered that the site is at negligible risk from coal mining.
<i>Potential for Natural Ground Subsidence</i>		- Compressible deposits –moderate risk rating associated with the Lacustrine Deposits that are recorded in the east the site. Compressibility and even settlement hazards are probably present. - Very low to negligible remaining ground stability hazard ratings have been identified on-site.
<i>Radon</i>		No radon protective measures are required within new dwellings.
<i>UXO</i>		A detailed UXO Risk Assessment has been undertaken for the site which concluded that a medium risk is posed to the site by UXO. It was recommended that an Explosive Ordnance Disposal (EOD) Engineer be in attendance during any excavation works undertaken within the site investigation. A full copy of the UXO Risk Assessment is presented within the Desk Study report.
Environmental Records		
<i>Regulatory Records</i>		- Environmental records indicate that there may be potential risks to the site related to former / current land use as an Aerodrome / Airport which has encompassed numerous tanks, a sewage works and other potentially contaminative land uses. However, any contamination risk to site is likely to be localised to the source. - There are 4 No. minor historical pollution incidents records involving demolition wastes occurring on the land adjacent (~25m north) which may give rise to some localised contamination on site involving windblown ACMs / fibres that could have been present within the demolition rubble.
<i>Landfills / waste sites</i>		- There are no current / historical landfills within 500m of the site. - No further permits and consents of significant concern to the site have been recorded.



4 Preliminary Contamination Risk Assessment

In accordance with LCRM 2020, a preliminary risk assessment (PRA) was completed for the site as detailed in the Phase 1 Desk Study report referenced in Table 1-2. The PRA is the first tier of risk assessment that develops the initial conceptual site model (ICSM) to establish whether there are any potentially unacceptable risks associated with the site.

The ICSM was developed based on the commonly adopted source-pathway-receptor (S-P-R) model as detailed within ICRM 2020. This was carried out in the context of the proposed development and potential contaminant linkages which may represent a risk to identified receptors.

The ICSM contained within the Phase 1 Report has been reproduced and refined for the purpose of this assessment and is summarised in Table 4-3. A summary of the potential contamination sources identified is given in the table below.

4.1 Potential Sources of Contamination

Sources (S); These are potential or known sources of contamination that may relate to a former land use or present site feature or process (e.g., fuel storage tanks). Sources relevant to the site identified within the ICSM are listed below:

The Phase 1 Desk Study report identified the following potential on-site and off-site sources (S) of contamination as detailed in Table 4-1.

Table 4-1 Potential On-Site Sources of Contamination

Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S1	Areas of Made Ground (both recorded and unrecorded).	Common contaminants may include cadmium, chromium, copper, lead, mercury, nickel, zinc, sulphate, sulphide, sulphur, pH, free cyanide, asbestos.	Depends on source of material; common contaminants may include: Poly-Aromatic Hydrocarbons (PAH), Petroleum Hydrocarbons (TPH) and Volatile Organic Compounds (VOCs).
S2	Agricultural Land - Potential for localised spills of fuels / oils from farm machinery and contamination present in existing agricultural Topsoil.	Topsoil may contain pesticides, naturally occurring metals and ACMs / fibres.	As above and pesticides.
S3	Above ground / below ground fuels storage tanks and the historical light aircraft crash in the southwest.	n/a	TPH, PAHs and VOCs.



Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S4	Sewage treatment works.	As S1.	TPH, chlorinated aliphatic hydrocarbons, pesticides, PCB's
S5	Former military land.	-	-
S6	Fire training area / runways	-	PFOS / PFAS
S7	Electrical substation and transformer/s	-	PCBs.
S8	Natural subsoils	Potentially elevated sulphates.	-

In reference to Source S4, the Phase 1 Desk Study also concluded that the potential exists for other contaminants to be present associated with the former sewage works. Sewage works have the potential for biological contamination such as Pathogens e.g., salmonella, Typhus bacteria. In addition, a range of treatment chemicals including aluminium sulphate, ferric sulphate and pH adjusters may have been present.

In reference to Source S5, the Phase 1 Desk Study concluded that site has historically been used partially as military land; therefore, there is a potential for radium contamination (Ra-226) to be present. The site has the potential for radium waste to be present from luminesced equipment and other sources. Radium luminescing operations were undertaken at some MOD sites. Luminescing paint may have been used on any dials for night-time use. Some MOD sites also contained luminescing workshops. Prior to painting, removal of old luminescing residues were often required. Waste products such as empty paint vials, brushes and scrapings were pre-1963 (Radioactive Substances Act) were often buried in waste disposal areas on site or incinerated and the residues buried.

However, taking the above into consideration, it was considered that the risk of encountering Ra-226 contamination below the wider site is low and would be likely to be localised to areas surrounding any hangers. Further site assessment prior to construction was however, recommended once existing buildings have been demolished and full site access can be undertaken.

Table 4-2 Potential Off-Site Sources of Contamination

Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S9	Numerous industrial land uses located on land within 250m of the site boundary.	Dissolved metals in groundwater comprising Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, Sulphate, sulphide, sulphur, Free Cyanide and elevated pH	PAH, TPH, BTEX and VOCs inc solvents), PCBs in groundwater.
S10	Pollution incidents involving demolition waste, ~25m north.	Wind-blown asbestos fibres and ACMs	n/a



As identified above, the potential exists for dissolved metals and organic contaminants to be present within any soils on site boundaries and / or any groundwater below the site (albeit unlikely) associated with the current / historical industrial land uses near to the site. However, it is expected that any associated contaminants would be fairly localised to the boundary and would be unlikely to impact groundwater (if present) under the majority of the site.

4.2 Potential Sources of Ground Gas & Vapours

The following potential sources of ground gas / vapours were identified on site and in the surrounding area as detailed in Table 4-3.

Table 4-3 Potential Sources of Ground Gas / Vapours

Source Number (S)	Location	Details	Source Potential (CIRIA C665)	Generation
S1	On-Site Areas of Made Ground (both recorded and unrecorded).	Made Ground has the potential to generate elevated ground gas at the site, particularly if any putrescible material is present.	Generally, very low and localised to the source but would be dependent on nature of any materials identified.	
S2, S3, S4 & S9	On-site & Off-site: Spills / leaks of fuels / oils / chemicals from the various sources identified in Table 7-3.	The potential exists for localised VOCs to be present within any soils / groundwater below the site associated with leaks or spills from farm vehicles historically using the site and vehicles using adjacent roads migrating towards the site.	Generally low and localised.	

4.3 Potential Contaminant Linkages

Based on the information above, the following potential contaminant linkages were considered applicable to the site. The risk classification has been qualitatively derived in accordance with Land Contamination Risk Management (LCRM) and the updated online guidance published in October 2020.

There is the potential for localised contamination at the site resulting from past / present on-site & off-site land uses which may have potentially impacted the site. Plausible contaminant linkages have been identified and therefore a risk assessment is required.

The risk classification has been qualitatively derived in accordance with CIRIA C552 (2001). The methodology is presented in the Phase 1 report. Based on the information above, the ICSM and following potential contaminant linkages considered applicable to the site are detailed in Table 4-4 overleaf.

A site investigation was recommended to establish current levels of contamination and the risk associated with them.



Table 4-4 ICSM & Potential Contaminant Linkages

Contaminant Linkage	Source (S)	Pathway (P)	Receptor (R)	Probability	Consequence	Current Risk
Human Health						
1	On Site: S1: Potential localised areas of Made Ground.	P1: Ingestion of contaminated particulates.	R1: Site end users.	Likely	Medium	Low / Moderate
2	S2: Agricultural land. S3: Fuel storage tanks. S4: Sewage treatment works. S5: Former military land; S6: Fire training area / runways. S7: Electrical substation and transformer/s Off Site: S9 Spills and leaks of fuels / oils occurring adjacent to site boundary impacting the site S10: Pollution incidents (demolition waste) 25m north - windblown ACMs.	P2: Dermal contact. P3: Inhalation of contaminated dust / particles.	R2: Construction workers / maintenance workers.	Likely	Medium	Low / Moderate
3	On Site S1 to S7, S9 & S10: as above.	P3: Inhalation of contaminated dust / particles.	R3: Members of the public / properties adjacent to the site during construction	Low	Mild	Low
4	On Site & Off-Site S1: Ground gas arising from Made Ground.	P8: Migration of asphyxiant and explosive/ harmful gasses into confined spaces.	R1: Site end users.	Unlikely	Severe	Low / moderate
			R2: As previous	Unlikely	Severe	Low / moderate

Contaminant Linkage	Source (S)	Pathway (P)	Receptor (R)	Probability	Consequence	Current Risk
5	S1 to S4 & S9: Vapours arising from contaminated soils and / or groundwater below the site associated with leaks / spills of fuels / oils / chemical from the identified sources.	P8: Inhalation of vapours in indoor and outdoor air.	R1: Site end users.	Unlikely	Severe	Low / moderate
			R2: Construction workers / maintenance workers in trenches.	Unlikely	Severe	Low / moderate
Controlled Waters						
6	On Site S1 to S4 detailed above.	P4: Leaching of contamination into groundwater.	R4: Secondary Undifferentiated & Secondary A Aquifers.	Unlikely	Medium	Low
7		P5: Surface water run-off and / or migration of contaminated groundwater.	R5: Inland rivers located on site / adjacent site.	Low	Medium	Low / Moderate
Property and Infrastructure						
8	On Site S1 to S7 & S9 detailed above. S8: Natural subsoils.	P4: Leaching of contaminants. P6: Direct contact	R6: Buried concrete & structures on and off-site. R7: Buried services / water pipes.	Unlikely	Mild	Low
Ecology						
9	On Site S1 to S7 & S9 detailed above.	P7: Uptake of available phytotoxic contaminants via direct contact with contaminants.	R8: Ecological receptors Flora & Fauna on and off-site.	Low	Mild	Low

5 Site Investigation

5.1 Summary of Site Works

The intrusive ground investigation works were undertaken between 31st January and 4th February 2022 by PJSG to establish the ground conditions beneath the site.

The locations of the exploratory holes were positioned taking into consideration future proposed development and the various contamination sources identified on site. However, this involved working within the constraints of the site, which included access restrictions and sub-surface utilities which also run through the site. No intrusive investigation was undertaken along the runways, taxiways and aprons.

Supervision of excavations / boreholes by a UXO Engineer was undertaken at all times during the intrusive investigation.

The ground investigation works were designed in general accordance with BS10175:2011+A2:2017 'Investigation of Potentially Contaminated Sites'. Further details of the ground investigation work undertaken, including the rationale for the location of the exploratory holes are detailed below in Table 5-1.

Table 5-1 Summary of Site Investigation Works

Method / Activity	No.	Hole Reference	Depth Range (m)	Testing	Gas & Groundwater Ancillaries	Rationale
Investigation Method						
Window Sample Borehole (WS)	19	WS01, WS04 – WS06, WS09, WS11 - WS27	1.00 – 5.00	*SPT's	8 No.	To determine general ground conditions across the site.
	8	WS02, WS03, WS07, WS10, WS08, WS23, WS24, WS25	1.00 – 5.00		7 No.	Targeted in the vicinity of a potential source of contamination.
Machine Excavated Trial Pits (TP)	38	TP01 –TP45	0.80 – 2.90	Hand Shear Vanes (HSVs)	-	To determine general ground conditions across the site.
	7	TP11, TP14, TP16, TP17, TP18, TP22, TP34	1.70 - 2.70		-	Targeted in the vicinity of a potential source of contamination.
Gas & Groundwater Monitoring						
Gas data meter, flow meter and groundwater dip meter	15	WS02, WS03, WS05, WS08, WS10, WS12, WS15, WS16, WS17, WS19, WS21, WS23, WS24, WS25, WS27.	1.00 – 5.00	-	See above	To determine the ground gas regime in accordance with CIRIA C665.

*SPTs undertaken in accordance with the guidance set out within BS EN 22476-3 2005 +A1:2011;

An Exploratory Hole Location Plan (PJSG21-55-DR-003) is provided within the Drawings Section of this report.

The exploratory logs are presented within Appendix A and the results of the SPT testing and HSVs are shown on the individual exploratory hole logs. The SPT hammer calibration certificate for the WS drilling rig is included in Appendix B.

5.2 Laboratory Testing and Sampling

Representative soil samples of the various strata types present were collected during the site investigation works by a suitably qualified engineer. Samples were recovered using a stainless-steel trowel and disposable gloves.

Samples were stored in cooler boxes prior to being transported to an MCERTS accredited laboratory. A selection of these samples was tested for the presence of contaminants and for classification purposes. Chemical testing was undertaken by i2 Analytical Ltd and geotechnical testing was undertaken by Exploration & Testing Associates Ltd.

A summary of the laboratory testing carried out is presented below.

Table 5-2 Summary of Laboratory Testing

Quantity	Analysis
Chemical Testing - Soils	
37	PJS Contamination Suite comprising: Moisture content, pH, Organic matter, Speciated USEPA 16 PAHs, Metals: As, Cd, Cr III & VI, Cu, Pb, Hg, Ni, Se, Zn, Water soluble sulphate (SO ₄).
27	Asbestos Screen and Identification (ID).
4	TPHCWG including BTEX.
14	BRE Suite D.
2	Volatile Organic Compounds (VOC).
8	Leachable Metals.
4	Perfluorooctane sulfonate (PFOS) and Perfluorooctanoic acid (PFOA) (in soils).
3	Coal Tar Suite.
1	Polychlorinated Biphenyls (PCB).
Geotechnical Testing	
29	Moisture Content
29	Liquid and Plastic Limits
7	Compaction (4.5kg Rammer)

Geotechnical laboratory testing was generally carried out in accordance with the relevant part of BS1377: 1990, *Methods of Test for Soils for Civil Engineering Purposes*, or, where superseded, by the relevant part of BS EN ISO 17892:2014+ *Geotechnical investigation and testing – Laboratory Testing of Soil*.

The chemical laboratory testing results are included within Appendix C and the geotechnical testing results are presented within Appendix D.

6 Ground Conditions

6.1 Summary of Ground Conditions

The geology encountered during the intrusive investigation was generally consistent with that anticipated from the desk study; however, superficial Till deposits which are mapped localised to the northeast corner of the site were not encountered. A summary of the general strata encountered across the site is provided in the Table 6-1 below, with more detailed descriptions given in the following sections and on the exploratory hole logs presented within Appendix A.

It should be noted that the Arden Sandstone Formation and Branscombe Mudstone Formation are sub units of the Mercia Mudstone Group (MMG). For ease of identification, both formations have been described within the parent MMG group.

Table 6-1 Summary of Ground Conditions

Stratum Description	Depth to base of Strata (mbgl)	Strata Thickness (Range, m)
Topsoil	0.1 –0.5	0.1 –0.50
Made Ground: Topsoil	0.05 –0.4	0.05 –0.4
Made Ground	0.3 – 1.10	0.30 – 1.10
*Lacustrine Deposits	0.9 – 2.7	0.70 – 2.40
Weathered MMG	0.8 to 2.6 (where proven) but base is >5m in some locations.	0.4 –2.0m (Not proven in every location)
MMG Bedrock	Not proven	Not proven

* Superficial Lacustrine Deposits were only encountered with WS15, WS16, TP26, TP27, TP28, TP29.

6.2 Summary of Geological Descriptions

The geology encountered below the site is described below.

Table 6-2 Geological Descriptions

Topsoil	Encountered in the majority of exploratory hole locations across the site (where Made Ground was absent) generally recovered as a sandy gravelly or sandy clayey topsoil with gravel of quartz, lignite, siltstone, sandstone, mudstone and chert proven to depths of 0.1m to 0.5m (average thickness of ~0.3m).
Made Ground: Topsoil	Encountered in 5 No. exploratory hole locations at WS01, TP10, TP11, TP18 and TP22 above layers of Made Ground recovered as brown clayey gravelly reworked agricultural topsoil with similar gravels as detailed above.
Made Ground	Encountered within 10 No. exploratory holes (WS01 to WS03, WS07, WS10, WS23, TP10, TP11, TP18 and TP22) and proven to depths of between 0.3m (WS03) and 1.1m (WS01). Made Ground was recovered as black and brown sandy gravel and re-worked gravelly clay. Gravel comprised asphalt, limestone, concrete and fragments of bricks, alongside inclusions of plastic and metal. Made Ground was localised to areas adjacent to existing buildings and areas formerly previously used as aircraft stands.



Lacustrine Deposits (LD)	Encountered in the north east of the site directly below the topsoil within WS15, WS16, TP26, TP27, TP28 and TP29 proven to depths of between 1.0m (WS16) and 2.7m (0.7m to 2.4m thick). Recovered as soft black or blueish grey organic clay containing organic remains and with an organic odour. At WS16, a loose brown gravelly sand containing fragments of sandstone was encountered at the base of the borehole. The Lacustrine Deposits were noted to contain significant amounts of groundwater and saturated ground was also noted within the vicinity.
Weathered MMG Deposits	Encountered across the site below topsoil or Made Ground from minimum depths of between 0.10m –2.70m proven to maximum depths of 5.0mbgl and were generally recovered as firm to stiff reddish brown and mottled grey clay with lenses of weak grey siltstone becoming heavily weathered and friable with depth. At exploratory hole locations WS03, TP18, TP19, TP20 and TP22, granular horizons were encountered in-between the cohesive layers from minimum depths of between 0.8m and 1.6m proven to a maximum depth of 2.3m (TP19) recovered as sand and / or gravel. Gravels mainly comprised of siltstone and sandstone. These deposits are considered to be weathered upper horizons of the MMG bedrock deposits.
MMG - Bedrock	Encountered in 29 No. locations across the site encountered below the weathered MMG deposits described above. The MMG bedrock was recovered weak or extremely weak grey siltstone occasionally recovered as clayey gravel. At exploratory hole location TP44, a weak reddish-brown mudstone was encountered at depth of 1.20m extending to >2.40m at the base of the trial pit. The MMG bedrock was encountered from depths of between 0.80m (TP04, TP05 and TP09) in the south of the site to a depth of 2.60m (TP26) in the north-east of the site. However, no consistency was observed in the spatial distribution of encountering bedrock across the site.

6.3 Summary of Field Observations

The following field observations were made during the intrusive investigation works.

Table 6-3 Field Observations

	Location Encountered	Observation	Depth Range (m)
Groundwater	WS07, WS08 WS13, WS14 WS15, WS16 WS18	Groundwater Strike	0.60 –3.30
	TP26, TP27 TP28, TP29	Groundwater Ingress	0.70 –2.00
Instability / Trench Collapse	WS14	Borehole Collapse	4.00
Running Sands	None encountered.		
Contamination	WS03	Hydrocarbon odour and staining	1.10 –1.20
	WS16	Organic odour (unknown)	0.50 –0.90



6.4 Summary of SPT Testing within Boreholes.

A summary of the uncorrected SPT N Values recorded in the boreholes advanced across the site in relation to the geologies is summarised below in Table 6-4. The recorded SPT N values are detailed on the exploratory hole logs presented within Appendix A

Table 6-4 SPT Summary in relation to Ground Conditions

Borehole Ref:	SPT 'N' Value with Depth (m).				
	1m	2m	3m	4m	5m
WS01	10	9	16	21	27
WS02	10	39	15	50	-
WS03	14	12	18	50	-
WS04	7	50	-	-	-
WS05	50	-	-	-	-
WS06	12	50	-	-	-
WS07	8	10	20	50	-
WS08	9	24	18	18	50
WS09	8	16	50	-	-
WS10	50	-	-	-	-
WS11	22	12	28	50	-
WS12	9	12	50	-	-
WS13	10	8	12	18	50
WS14	8	10	14	12	24
WS15	4	8	50	-	-
WS16	0	-	-	-	-
WS17	8	10	22	50	-
WS18	4	16	12	50	-
WS19	32	50	-	-	-
WS20	24	26	50	-	-
WS21	8	8	50	-	-
WS22	9	12	12	22	-
WS23	10	12	14	20	40
WS24	12	15	20	33	-
WS25	7	10	24	20	26
WS26	16	16	8	17	50
WS27	8	16	50	-	-
Lacustrine Deposits					
Weathered MMG - Cohesive					
Weathered MMG - Granular					
MMG - Bedrock					

As noted above, the Lacustrine Deposits in exploratory hole locations WS15 and WS16 situated in the northeast of the site were noted to be very loose (SPT N value <4) at WS16 or very soft SPT N value <8) at WS15. Additionally, some of the weathered MMG cohesive were noted to be soft at exploratory hole location WS04, WS18 and WS25 at a depth of 1.0m. The geo-technical implications of this are discussed further in Section 7.0.

6.5 Gas & Groundwater Monitoring

Gas and groundwater monitoring has been carried out on 6 No. monitoring visits to date from February to May 2022. The monitoring data is presented in Appendix E.

A summary of the ground gas monitoring results obtained to date are displayed in the table below.

Table 6-5 Ground Gas Monitoring Summary

Ground Gas Monitoring Summary	Minimum	Maximum	Unit
Methane (CH ₄)	< 0.1	0.1	% v/v
Carbon dioxide (CO ₂)	< 0.1	6.7	% v/v
Oxygen (O)	0.1	20.8	% v/v
Carbon monoxide (C)	< 1	10	ppm
Hydrogen sulphide (H ₂ S)	< 1	< 1	ppm
Atmospheric Pressure (mb)	996	1030	mb
Flow Rates (m/s)	< 0.1	1.4	l/hr

A summary of the groundwater monitoring results obtained to date are displayed below.

Table 6-6 Groundwater Monitoring Summary

Borehole Ref.	Depth bgl. (m)	Response Zone Flooded (Y/N)	Number of Occasions Flooded
WS02	4.00	N	-
W S03	4.00	N	-
W S05	1.00	N	-
W S08	4.70	N	-
W S10	1.00	N	-
W S12	3.00	N	-
W S15	3.00	Y	3 of 6
W S16	1.00	Y	6 of 6
W S17	4.00	N	-
W S19	2.00	N	-
W S21	3.00	N	-
W S23	5.00	N	-
W S24	4.00	N	-
W S25	5.00	N	-
W S27	3.00	N	-

It is noted above that groundwater levels recorded during the monitoring period indicate 2 out of 15 boreholes (WS15 and WS16) had flooded response zones (groundwater was <1.0m from ground level) noted on all 6 monitoring visits in WS16 and on 3 out of 6 monitoring visits in WS15.

7 Geotechnical Assessment

1.1 Introduction

Redevelopment proposals for the site are understood to comprise the construction of residential buildings with areas of hardstand and soft landscaping. However, a development layout plan has not been provided for the site.

1.2 Material Properties

To assist with foundation design, in-situ testing and geotechnical classification testing has been undertaken on a selection of the soil samples recovered from site. The geotechnical properties of the soil types encountered across the site as summarised in the sections below.

Geotechnical analysis of the samples was carried out by Exploration & Testing Associates Ltd. Results are contained within the Appendix D.

7.1 Plasticity Index & Volume Change Potential

A total of 29 No. Plasticity Index (PI) tests were undertaken on the various materials types recovered from below the site in accordance with BS1377-2: 1990 Clause 3.2, to determine the Modified Volume Change Potential (VCP) in accordance with NHBC Standards (Chapter 4.2).

Results of the PI tests and the related VCP of the materials types is summarised in the tables below.

7.1.1 Weathered MMG Deposits

Results of the PI tests and the related VCP of the weathered MMG deposits is summarised in the table 7-1 below.

Table 7-1 Summary of Plasticity Testing –Weathered MMG deposits.

Sam ple Location	Depth (m)	Field Description	Plasticity Index (%)	Percentage Passing 425µm Sieve (%)	Modified Plasticity Index (%)	VCP
WS12	0.80	CLAY	24	100%	24	Medium
TP40	0.90	CLAY	24	66%	15.8	Low
W S21	0.90	CLAY	21	96%	20	Medium
TP31	0.90	CLAY	34	100%	34	Medium
W S10	0.90	CLAY	22	93%	20	Medium
TP34	1.00	CLAY	28	100%	28	Medium
TP43	1.00	CLAY	21	99%	21	Medium
TP12	1.00	CLAY	18	85%	15	Low
W S04	1.00	CLAY	7	80%	6	Non-shrinkable

Sam ple Location	Depth (m)	Field Description	Plasticity Index (%)	Percentage Passing 425µm Sieve (%)	Modified Plasticity Index (%)	VCP
TP06	1.00	CLAY	11	92%	10	Low
TP15	1.05	CLAY	15	95%	14	Low
WS14	1.50	CLAY	20	100%	20	Medium
TP19	1.50	CLAY	21	99%	21	Medium
TP01	1.50	CLAY	11	100%	11	Low
TP10	1.50	CLAY	14	100%	14	Low
TP22	2.00	CLAY	15	100%	15	Low
TP36	2.20	CLAY	14	100%	14	Low
TP03	2.40	CLAY	0	100%	0	Non-shrinkable
WS20	2.40	CLAY	19	100%	19	Low
TP41	2.50	CLAY	12	98%	12	Low
WS07	2.50	CLAY	17	100%	17	Low
WS15	2.90	CLAY	13	45%	6	Non-shrinkable
WS18	3.80	CLAY	15	100%	15	Low

Plasticity testing has determined the weathered MMG Deposits to range from low to medium VCP as indicated in the above table. Based on the results it is considered that medium VCP should be assumed for foundation design purposes. In accordance with NHBC standards, foundation depths should be a minimum of 0.90m below existing or reduced levels (where foundations are located outside the zone of influence of trees).

7.1.2 MMG Bedrock Deposits

Results of the PI tests and the related VCP of the MMG bedrock deposits is summarised in the table 7-2 below.

Table 7-2 Summary of Plasticity Testing with Mercia Mudstone Group bedrock deposits.

Sam ple Location	Depth (m)	Field Description	Plasticity Index (%)	Percentage Passing 425µm Sieve (%)	Modified Plasticity Index (%)	VCP
TP05	0.85	GRAVEL	0	-	0	Non-shrinkable
TP35	1.20	GRAVEL	0	-	0	Non-shrinkable
TP45	1.30	GRAVEL	0	-	0	Non-shrinkable



Plasticity testing has determined the MMG bedrock deposits to be non-shrinkable as indicated in the above table. As such, foundations placed uniformly within the bedrock would not require heave precautions should the depth of surrounding cohesive deposits not exceed 1.5m in accordance with NHBC Guidelines Chapter 4.2 –Building Near Trees.

7.1.3 Lacustrine Deposits

Results of the PI tests and the related VCP of the Lacustrine deposits is summarised in the table 7-3 below.

Table 7-3 Summary of Plasticity Testing within Lacustrine Deposits

Sam ple Location	Depth (m)	Field Description	Plasticity Index (%)	Percentage Passing 425µm Sieve (%)	Modified Plasticity Index (%)	VCP
TP26	1.10	CLAY	50	100%	50	High
WS15	1.20	CLAY	37	98%	36	Medium
TP28	1.50	CLAY	17	99%	17	Low

Plasticity testing has determined the Lacustrine Deposits to range from low to high VCP as indicated in the above table. Based on the results it is considered that high VCP should be assumed for foundation design purposes should any plots coincide with the Lacustrine Deposits identified in the north-east of the site.

In accordance with NHBC standards, foundation depths should be a minimum of 1.00m below existing or reduced levels (where foundations are located outside the zone of influence of trees).

7.2 In-situ Standard Penetration Testing

Standard Penetration Tests were undertaken at regular intervals during drilling of the window sample boreholes in accordance with the methodology outlined in British Standard BS EN 22476-3 2005.

A plot of the SPT N value Vs depth in relation to the various types of material encountered below the site is presented as Figure 1 overleaf.

A copy of the SPT calibration certificates for the window sample drilling rig is presented within Appendix B.



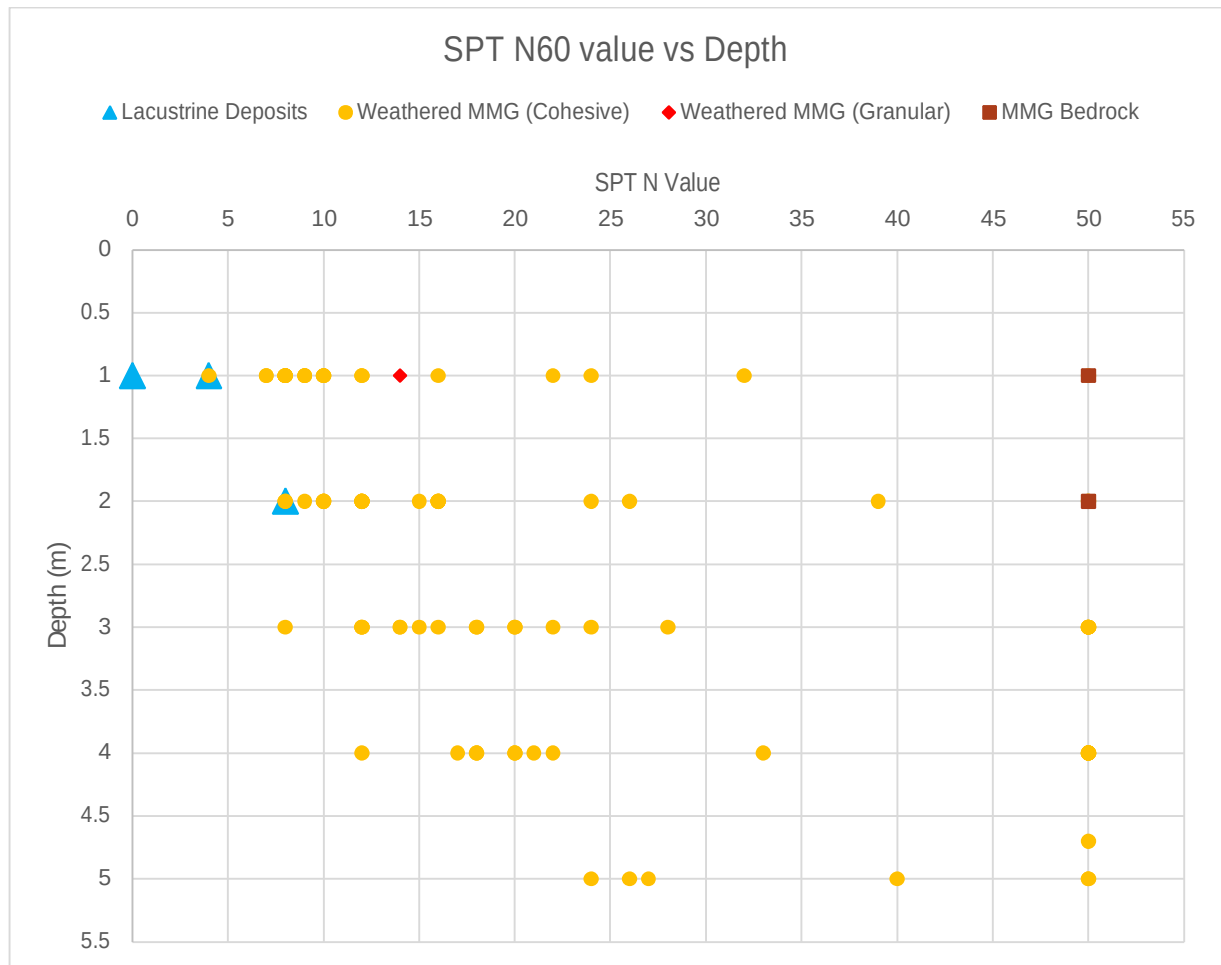


Figure 1 - SPT Value with depth

Results of the SPT testing would indicate that the weathered cohesive MMG deposits generally comprise firm to stiff and very stiff strata noted to increase in strength with depth as shown in Figure 1 above. As noted above, the Lacustrine Deposits (exploratory hole locations WS15 and WS16) situated in the northeast of the site were noted to be very loose (SPT N value <4) at WS16 or very soft SPT N value <8) at WS15.



7.3 Undrained Shear Strength

The undrained shear strength of the materials has been estimated from the SPT N Values by empirical correlation as described in CIRIA Report C143 (after Stroud and Butler, 1975):

$$c_u = \tilde{N} f_1 \text{ (kN/m}^2\text{)} \quad [1]$$

Where c_u is the undrained shear strength, N is the SPT N value and f_1 is an empirical correlation factor based on the soil plasticity index. The soil plasticity data obtained from soil samples recovered below the site during the investigation has been used for calculation purpose.

However, for the purpose of the calculation, samples categorised as non-plastic recovered from within the weathered MMG have been removed from the dataset. Additionally, a sample recovered from TP26 at 1.1m had a very high-water content and a PI of >50 likely due to a high organic matter content of the material, similar in nature to peat. This sample has also been removed from the dataset for the purpose of the below calculation as it is considered anomalous.

Based on the plasticity index testing carried out, the values in Table 7-4 have been assumed for the purpose of calculation.

Table 7-4 Calculated F1 Values

Strata	Average I _p	F ₁ Value
Weathered MMG (cohesive) Deposits	18	5.7
*Lacustrine Deposits	27	4.8

*Two samples tested.

Calculated using corrected N₆₀ value range of 4 - 56 the estimated undrained shear strength of the Mercia Mudstone Group cohesive strata is between 23kN/m² and 320kN/m² with an average shear strength of 125kN/m².

In-situ Hand Shear Vane (HSV) tests were also carried out in the Mercia Mudstone Group cohesive deposits between depths of 0.60m and 2.40mbgl which ranged between 48kPa and 120kPa (site average of 78kPa) which indicates the cohesive deposits to be medium to high strength as approximately estimated above, which is slightly lower than estimated.

For the Lacustrine Deposits identified in the northeast of the site, an N₆₀ value range of 4 - 8 is applicable whereby the estimated undrained shear strength is between 18kN/m² and 36kN/m² which indicates very low to low strength deposits. For the purpose of the calculation, an SPT's of <1 (recorded at WS16 at 1.0m) was removed from the dataset. The implication of an N <1 is discussed in further sections.

In-situ Hand Shear Vane (HSV) tests were also carried out in the Lacustrine cohesive deposits between depths of 0.60m and 2.40mbgl which ranged between 30kPa and 72kPa (site average of 47kPa) which indicates the cohesive deposits to be low to medium strength.

Figure 2 and Figure 3 overleaf presents plots of the estimated undrained shear strength with depth beneath the site of the Lacustrine Deposits and weathered MMG deposits based on the soil plasticity testing and in-situ shear strength of the deposits recorded using a HSV. The results show a clear trend of increasing shear strength with depth.

In addition, soft Lacustrine deposits were also identified within the northern area of site as indicated on the low shear strengths recorded / estimated.

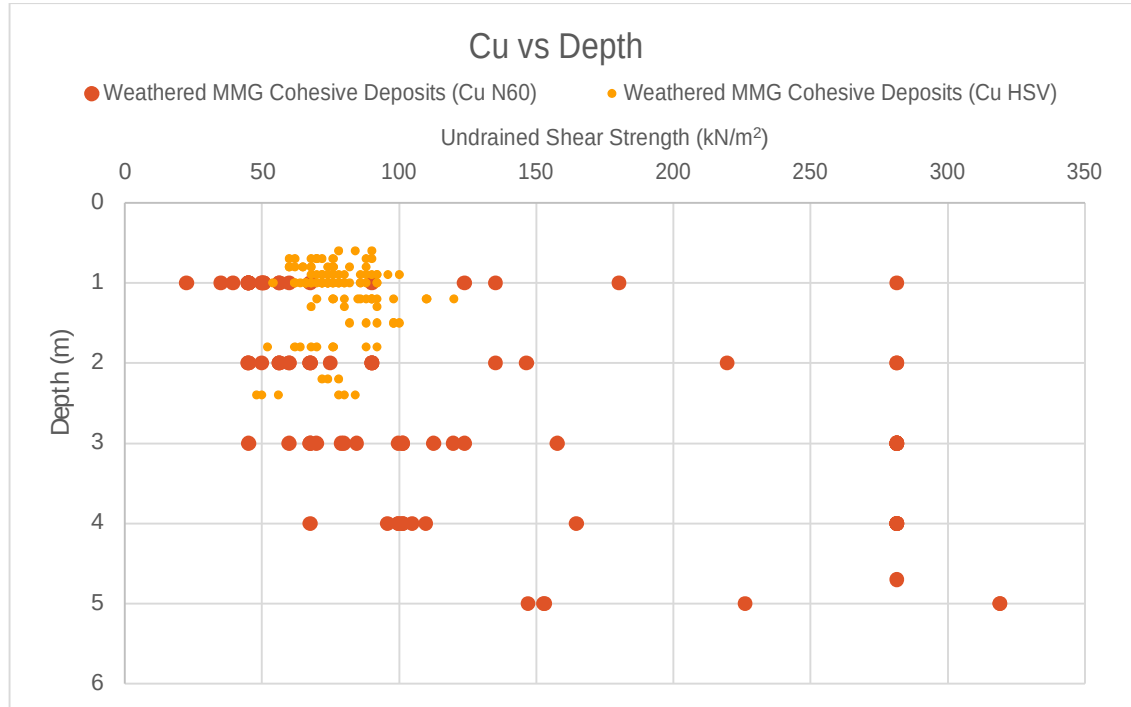


Figure 2 - Estimated Shear Strength with depth –Weathered MMG Deposits



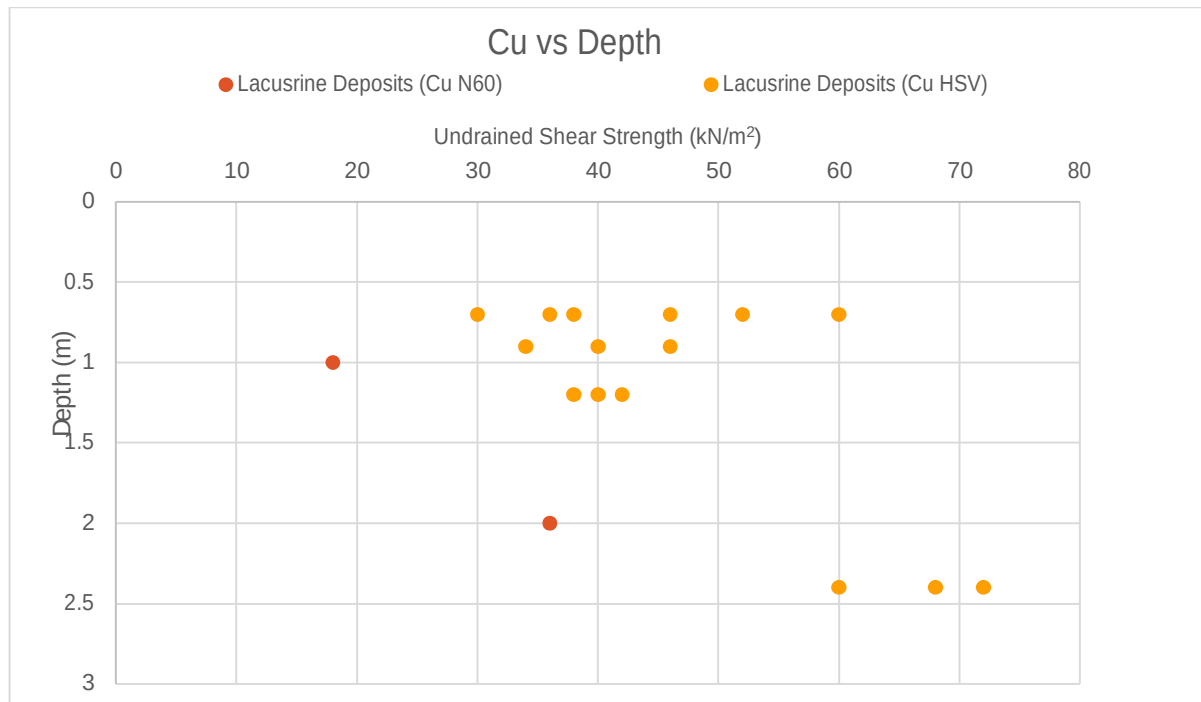


Figure 3 - Estimated Shear Strength with depth –Lacustrine Deposits

7.4 Material Properties Summary

A summary of the material properties / strength characteristics is presented below in Table 7-5.

Table 7-5 Material Properties Summary

Strata	Approx. Depth (m)	Average N60 Value	Average Undrained Shear Strength (kPa)	Strength	VCP	Recommended Allowable Bearing Pressure (kPa)
Weathered Mercia Mudstone Group Deposits	~1	13	75	Medium to high strength	Low to Medium	125
	~2.0	17	90	Medium to high strength	~2.0	150
Mercia Mudstone Group - Bedrock	Varied- (0.8 – 2.6)	50	-		Non-shrinkable	>150
Lacustrine Deposits	~1.0	4	45	Extremely low to medium strength	Low to High	<85 (Not recommended for traditional foundations)



7.5 Foundation Assessment.

The following section presents recommendations for foundations for the proposed residential development taking into consideration the ground conditions encountered and the material properties.

7.5.1 *Traditional Foundations*

Traditional strip / trenchfill foundations are generally considered appropriate for the majority of the proposed development. An allowable design bearing pressure of 125kN/m² is recommended for trenchfill foundations (up to 1m wide), bearing uniformly in the firm to stiff Mercia Mudstone Group cohesive deposits placed at a minimum depth of 0.90m, based on a medium VCP clays. This value includes a factor of safety of 3.0 against general shear failure and should result in total settlements not exceeding 25mm for foundations up to 1m wide, keeping differential settlements within acceptable limits.

Foundations should be advanced beyond any localised Made Ground or granular deposits (vicinity of WS03) and / or any soft cohesive deposits encountered in the vicinity of WS04, WS18 and WS25 at a depth of 1.0m within the MMG deposits in the vicinity of and be placed uniformly within the underlying firm to stiff cohesive deposits.

Lacustrine Deposits were encountered in the northeast of the site, noted to be very soft (SPT N Values <8 blows) and of extremely low to low and medium strength. As such, traditional foundations are not recommended for the Lacustrine Deposits. An allowance for deepening foundations / alternative foundation types corresponding with the Lacustrine Deposits should be made at this stage. Once a site layout has been established it is recommended that further investigation is carried out in the area of the site where Lacustrine Deposits were encountered in order to delineate the extent of loose / soft deposits and to confirm foundation types.

Potential localised deepening of foundations which coincide with areas of Made Ground / existing building footprints might be required to ensure foundations are placed uniformly within the underlying firm to stiff natural cohesive deposits. Demolition of existing infrastructure shall be required to facilitate the proposed development. Where existing substructures are demolished, it is possible that significant deeper unidentified Made Ground deposits may be present.

Demolition works should be undertaken with the view of providing a suitable development platform for proposed residential properties and it is considered that a demolition / remediation specification may be required to assist in this process. For example, all underground concrete structures will need to be removed from the ground beneath proposed structures in order to avoid hampering future foundation or drainage construction.

It is recommended that further investigation works are undertaken beneath existing on-site buildings (post demolition) to confirm the depth and type of Made Ground present to aid in foundation design.

Where any contrasting ground / localised soft spots are encountered at founding level, steel mesh reinforcement (B785 or similar) may be required in the base of foundations to span the different strata types / low strength material. Should steel be required, RC35 concrete should be used.

Where plots are underlain by cohesive strata and within the influence of existing trees / hedges, foundations will require deepening in accordance with the NHBC guidelines.

Where strip / trenchfill foundations are adopted and plots are impacted by tree influence within cohesive deposits, heave precautions to include for the provision of a 250mm void beneath beam and block floor slabs will be required.



Further heave precautions comprising a 25mm void on the inside face of all external foundations should also be included where foundation depths exceed 1.5m due to tree influence. Care should be taken to avoid softening of the base of the foundation excavation during construction. Where necessary, a 100mm blinding of concrete should be constructed to protect the foundation formation during adverse weather conditions. The excavation should not be left open for any extended period.

Foundation widths should be designed as part of detailed design by a structural Engineer, appropriate to the loads being imposed, however 0.6m wide foundations are likely to be appropriate for external walls and 0.75m wide for party walls and gable ends.

It is recommended that foundation trenches should be inspected by an Engineer prior to pouring concrete to confirm that foundations are placed uniformly within firm to stiff cohesive MMG deposits.

It is recommended that detailed foundation design is undertaken prior to construction to confirm compliance with appropriate guidance and the most cost-effective foundation solution. A tree survey shall be required in order to facilitate detailed foundation design.

7.5.2 Alternative Foundation Options

Low strength Lacustrine Deposits have been encountered within the north-eastern area of the site which may preclude the use of traditional foundations. This area is indicated on drawing PJSG21-55-DR-004 presented in the drawings section of this report. In addition, should site levels be raised significantly then alternative foundation types may also be required (such as piled or ground improvement).

The choice of any alternative foundation solution will be based on a number of factors including the developer's preference along with economic, social and environmental factors. At this stage the following options are considered to be most appropriate:

Piled Foundations

Piled foundations may be required for any plots that coincide with very soft to soft Lacustrine Deposits encountered in the north-east of the site with column loads being transferred to more competent strata at depth.

Piled foundations may be required in areas of the site should ground levels be raised significantly.

Piled foundations may also be required for any plots where foundations depths exceed 2.5m due to tree influence. A fixed site layout has not been provided to PJSG at this stage.

Reinforced ground beams will be required for any piled plots, which can be either pre-cast or cast in-situ depending on developer preference, and should be designed by a specialist contractor or Structural Engineer.

Where piled plots are located within the influence of existing or removed trees heave precautions shall be required comprising compressible material on the inside face of external wall ground beams (25mm) and underside of all ground-beams (100mm). The piling contractor should consider the risk of heave on the actual pile shaft or column.

Based on the available ground information, concrete driven piles are likely to be considered suitable. Steel piles may be required if driving resistance is high or a reduction in ground vibration is required. Bored piles may be required if ground conditions are not conducive to driven piles or if detailed design demonstrates bored piles could be founded at shallower depths. A specialist piling contractor should be consulted for site specific pile type and design.



Further site investigation (deeper boreholes) may be required to determine pile depths should this foundation option be desired / required.

An allowance should be made for a working platform to support a specialist piling rig.

It is recommended that advice is obtained from specialist piling contractors to ascertain the most economical solution for the ground conditions encountered.

Ground Improvement

Ground improvement techniques (such as vibro stone column ground improvement) with reinforced concrete strip foundations may provide a suitable foundation solution for plots where poor bearing strata is present (areas where low SPT N values have been encountered). Typically, allowable bearing capacities in the region of 125kN/m² can be achieved following ground improvement works. The ground logs should be forwarded to a specialist contractor to confirm that ground improvement techniques will be viable.

The potential use of a ground improvement solution shall require careful design, control and validation of the proposed filling operation. Such works will need to be controlled by an Earthworks Strategy & Validation Report.

Ground improvement foundations shall require design by a specialist Contractor, and in particular should involve early engagement regarding any proposed filling operations.

Ground improvement foundations may not be suitable where ground conditions are inconsistent beneath the footprint of the plot, as differential settlement may be a potential issue. Further plot specific investigation may be required to confirm uniform ground conditions beneath plot footprints.

An allowance should be made for a working platform to support a specialist rig.

7.6 Floor Slab Construction

Suspended floor slabs / beam and block floor construction is likely to be the most viable floor slab construction.

At this stage however it is anticipated that both ground bearing and suspended floor slabs may be suitable for the site, subject to developer preference and further assessment of proposed ground levels / tree influence.

For plots where depths of fill exceed 600mm below the floor slab or are founded within cohesive deposits and within the influence of trees, ground bearing slabs will not be suitable and a suspended floor slab should be adopted.

The final specification of ground floor slabs will be subject to detailed design, taking into account existing and proposed levels and the impact of trees/vegetation.

7.7 Excavations

Excavations using backhoe excavators are expected to be suitable in the natural strata across the site. Mechanical breaking equipment is unlikely to be required given the soil type encountered beneath the site and observations made during the investigation works.

The requirement for shoring is considered unlikely for the majority of excavations in the short term based on no instability being noted. However, excavations that remain open for long periods, particularly during inclement



weather are expected to be prone to instability. Where personnel entry is required for inspection, excavations should be sufficiently enlarged and an assessment of safe temporary angles should be assessed; alternatively, temporary shoring should be provided.

No excavations should be entered until a full risk assessment is completed to assess the stability requirements and safety issues.

7.8 Obstructions

No significant obstructions are anticipated based on the observations made during the ground investigation works. Some cobbles and small boulders were encountered within trial pits. Areas of hardstanding around the control tower, fire station and hangars will require breaking out prior to construction.

7.9 Drainage

The cohesive geology encountered across the site would suggest that soakaway drainage is not considered feasible; an alternative drainage solution is therefore likely to be required. However, the local authority may request that in-situ infiltration testing is carried out prior to construction to confirm this preliminary assessment.

7.10 Concrete Classification

The laboratory results have been assessed against the BRE Special Digest 1 2005: 3rd Edition Aggressive Chemical Environment for Concrete (ACEC) Site classification. The Site has been designated as Brownfield with mobile groundwater.

The results are summarised in the table below and the full laboratory results are available within Appendix C.

Table 7-6 Summary of Concrete Classification

Strata	Number of samples	Depth Range (m)	Characteristic Water-Soluble Sulphate Concentration	Maximum Total Potential Sulphate (%)	Maximum Oxidisable Sulphides (%)	pH Range	DS Class	ACEC Class
*Weathered MMG Deposits	10	0.5 – 1.5	100	0.054	0.015	7.1 – 8.6	DS1	AC1
*MMG Bedrock	2	0.85 – 2.5	43.3	0.03	0.013	7.3 – 8.1	DS1	AC1
**Lacustrine Deposits	2	1.2 – 2.0	1730	1.86	0.614	7.0 – 7.2	DS4	AC4

*<0.3% maximum oxidizable sulphides in 12 out of 12 samples of MMG Deposits (inc bedrock).

**>0.3% maximum oxidizable sulphides in 2 out of 2 samples of natural Lacustrine Deposits tested.

For the MMG deposits (including bedrock), the amount of oxidizable sulphides <0.3% was recorded in 12 out of 12 samples tested. The classification above has therefore not taken oxidizable sulphides into consideration. The testing carried out has not identified pyrite to be present in the MMG deposits. Therefore, any buried concrete in contact with the MMG deposits on-site should be designed accordingly as recommended in the table above.

For the Lacustrine Deposits, the amount of oxidizable sulphides >0.3% was recorded in 2 out of 2 samples tested. The classification above has therefore taken oxidisable sulphides into consideration. The testing carried out also identified that pyrite is potentially present (2 out of 2 samples tested had oxidizable sulphides >0.3%). Therefore, any buried concrete in contact with the Lacustrine Deposits on-site should be designed accordingly as recommended in the table above.

Further delineation and testing of in-situ Lacustrine Deposits and Made Ground materials at potential founding depth is recommended prior to construction so that the appropriate concrete classification can be determined for buried concrete.

7.11 Roads & Hardstanding

Based on the ground conditions encountered, it is considered appropriate that a preliminary CBR design values of between 3% –5% should be achieved for near surface soils at the site. Any soft or otherwise unsuitable material should be removed and replaced by engineered stone to an appropriate specification prior to construction. Formation levels should be thoroughly proof-rolled.

In-situ CBR testing is recommended at formation level once development proposals have been established.

7.12 Earthworks

A total of 7 No. maximum dry density/ optimum moisture content relationship tests were undertaken using a 4.5kg rammer on samples of the natural deposits obtained from trial pits at depths of between 0.5m and 1.5m bgl. A summary of the results is presented below:

Table 7-7 Dry Density and Moisture Content Relationship

Sam ple Reference	Sample Depth (m)	Stratum	Maximum Dry Density (Mg/m ³)	Optimum Moisture Content (%)
TP13	0.50	Weathered MMG Deposits	1.78	17
TP33	0.50	Weathered MMG Deposits	1.70	12
TP37	0.80	Weathered MMG Deposits	1.79	18
TP08	0.80	Weathered MMG Deposits (Sand)	1.97	8.9
TP27	1.00	Lacustrine Deposits	1.73	15
TP44	1.00	Weathered MMG Deposits	1.70	18
TP17	1.50	Weathered MMG Deposits	1.74	17

Compaction testing on soils of the weathered MMG Mercia Formation using a 4.5kg rammer results in Maximum Dry Densities of between 1.70 and 1.97 mg/m³ and Optimum Moisture Contents ranging between of 8.9% and 18%.



Natural moisture contents of the weathered MMG deposits ranged between 14% and 41%, with an average of around 25% for the soils tested (based on 23 samples that were recovered from below the site). The above table would therefore indicate that the in-situ materials are generally above the optimum moisture content suggesting that some modification (e.g. lime/cement stabilisation or drying out) may be required in order to achieve satisfactory compaction in the event that these materials are used for earthworks.

Further testing of site Lacustrine soils would however be required prior to any Earthworks to confirm classification of materials and appropriate methods of compaction.

The suitability of earthworks materials has been assessed based on the testing carried out as part of this investigation, the materials encountered during construction may vary from those analysed. Furthermore, inclement weather or winter working may result in materials being unsuitable for incorporation within the works without modification by lime, cement or other methods. In particular, cohesive soils are very susceptible to 'wet weather working' and we recommend that consideration should be given to lime and/or cement stabilisation of these materials if any earthworks are undertaken during inclement weather or during the winter periods.

Stockpiled materials often deteriorate due to water infiltration and they may become unsuitable for incorporation in the works; adequate sealing of stockpiles should be undertaken where materials are not intended for immediate use.

7.13 Geological Faults & Coal Mining Subsidence

Since issue of the Phase 1 Desk Study report, anecdotal evidence has arisen from the site manager in relation to potential subsidence of one of the runways on-site (Runway 21/03) and that the potential subsidence was estimated to have taken place in the late 70s / early 80s. The evidence indicates that this occurred within runway 21/03 which is shown on the airport website to be located on the eastern side of the site extending approximately northeast to southwest. It was confirmed that the runway had to be rebuilt and it is understood that this was paid for by the National Coal Board, as it was believed that historical mining legacy may have caused the runway to collapse. The Coal Authority Report obtained shows no record of this.

Taking this information into consideration, PJSG have reviewed the information contained within the Phase 1 Desk Study in relation to ground subsidence, faults and coal mining issues, alongside the available ground investigation data and conclude the following:

7.13.1 Geological Faults

- The Phase 1 Desk study identified a number of (inferred) geological faults recorded at surface within the site boundaries, generally all trending in a northwest to southeast direction.
- The faults are indicated to downthrow towards the northeast and southwest, dipping towards the southeast as indicated on the BGS Map of Nottingham (solid and drift) 1:50,000 Series (Sheet 126) dated 1996.
- The Desk Study concluded that it is considered unlikely that significant changes of strata will occur across the fault zones; however, faulting in the bedrock may be present beneath the site and represent zones of weakness in the ground.
- Across the fault zones, the thickness of weathered bedrock strata may increase and a risk of differential settlement may be present. However, it is unlikely that significant changes of strata will occur across the fault zones as the faulted strata is anticipated to be similar in composition.



7.13.2 Coal Mining

- A Coal Authority Report obtained for the site indicated that 8 No. seams of coal are present below the site at depths of ~395m to 455m depth, last worked in 1990.
- No mine entries are recorded on site.
- The report indicated no coal mining faults to be present.
- The Coal Authority report indicated that a damage notice or claim for alleged subsidence damage was made in June 2010 for land at Aerodrome Farm, Tollerton, Nottingham, Nottinghamshire (land adjacent to the site). The claim was however rejected by the Coal Authority.
- The Phase 1 Report confirmed that PJSG have had further discussions with the Coal Authority and they have confirmed that the claim was for disturbance / damage that had occurred on land directly adjacent to the study site only.
- The Coal Authority rejected the claim and concluded that any damage occurred is deemed to be due to natural ground disturbance and/or heavy rainfall on cohesive strata.

7.13.3 Conclusion

In conclusion, taking the above information into account, it is considered unlikely that deep underground mining would have impacted the site surface with regards to collapse / void migration, as the coal workings are located at significant depth beneath the site. Additionally, it is also considered unlikely that subsidence of the runway would have been caused by the collapse of historical mining activities.

Further contact has since been made with the Coal Authority to assess if they have any historical Coal Board records in regard to the anecdotal evidence received. The Coal Authority have however confirmed that they only require to disclose details of claims made since 31st October 1994 with this 'cut off' date being introduced on 1st July 2011 therefore we would not hold any information prior to this date.

Based on the above, it would be beneficial to contact the warranty providers / building control at an early stage to assess the implication of this information on the proposed development and to assess the requirement for further investigation or to confirm any preventative measures to be incorporated into the development.



8 Generic Quantitative Risk Assessment

In accordance with Land Contamination Risk Management (LCRM EA, 2020), a Generic Quantitative Risk Assessment (GQRA) has been undertaken to determine the significance of the measured concentrations of contaminants identified during the ground investigation.

This involves undertaking an assessment of each potential contaminant linkage identified within the ICSM by comparing the contaminant concentrations against appropriate Generic Assessment Criteria (GAC).

GACs are screening criteria which are derived using a standard set of generic assumptions. They are designed to be broadly applicable to a wide range of site conditions and exposure scenarios. They must be appropriate and suitable for your site. The GACs used in this assessment represent “trigger values” that, if exceeded, could indicate a possibility of significant harm. However, these criteria do not represent the threshold at which there is a significant possibility of significant harm; this determination will normally require further investigation and / or Detailed Quantitative Risk Assessment (DQRA) is required and evaluation of risk to human health and controlled waters.

8.1 Human Health Risk Assessment

8.1.1 Assessment Criteria

Contaminant data has been compared to the Land Quality Management (LQM) / Chartered Institute of Environmental Health (CIEH) values published within ‘The LQM/CIEH Suitable for Use Levels (S4ULs) for Human Health Risk Assessment’ 2015. In brief, the document provides assessment criteria which have been derived in accordance with UK legislation, national as well as EA policy and using a modified version of the CLEA software and available guidance.

The S4ULs are considered appropriate for use in this assessment for organic contaminants and the Soil Organic Matter (SOM) content has been taken into consideration where appropriate.

Criteria for a limited number of contaminants have been derived by the Department for Environment, Food and Rural Affairs (DEFRA; UK government) in their document entitled SP1010: Development of Category 4 Screening Levels (C4SL) for Assessment of Land Affected by Contamination, April 2014. The National Planning Policy Framework states that ‘after development, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990’. Therefore, by inference, the C4SLs are appropriate for use in the planning context. It is generally accepted that assessment criteria for metals are not sensitive to changes in soil organic content (SOM). The C4SLs have therefore been adopted as assessment criteria in this report for the listed metals within the SP1010.

8.1.2 Soil Chemical Data in Comparison to GACs

The soil samples recovered from the site have been compared to appropriate GACs for a residential end use with plant uptake. The following exceedances were recorded across the site when compared to appropriate GACs for residential end use with plant uptake.

Inorganic Contaminants

The following table shows the organic contaminant concentrations that have exceeded their relevant Cc’s recorded in samples recovered from the Made Ground during the investigation.



Table 8-1 Summary of Metals Exceeding GAC

Contaminant	Number of Exceedances	Cc (mg/kg)	Concentrations of exceedances (mg/kg)		Location & Depth (m)
			Min	Max	
Arsenic (As)	1	32	120		TP10 (0.30) MG –Gravel Sub-base
Lead (Pb)	1	200	240		TP10 (0.30) MG –Gravel Sub-base

Organic Contaminants

The following table shows the organic contaminant concentrations that have exceeded their relevant Cc's at the appropriate SOM recorded in samples of Made Ground and topsoil recovered during the investigation.

The SOM encountered within the Made Ground on site ranged between 1.5% and 6.6% with an average of 3.5%. A SOM% of 2.5% was therefore chosen as this conservatively represented the near surface soils and the natural underlying material.

Table 8-2 Summary of Polycyclic Aromatic Hydrocarbons (PAH) Exceedances

Contaminant	Nº of Exceedances	Cc (mg/kg)	Concentrations of exceedances (mg/kg)		Location, Depth (m) and Strata Type
			Min	Max	
Benzo(b)fluoranthene	8	3.30	4.60	300	WS02 (0.30) MG –Clay WS08 (0.20) Topsoil WS07 (0.20) MG –Sand & Gravel Sub-base WS10 (0.20) MG –Gravel Sub-base TP10 (0.30) MG –Gravel Sub-base TP14 (0.20) Topsoil TP18 (0.30) MG - Sand & Gravel Sub-base TP22 (0.15) MG – Asphalt
Benzo(a)pyrene	8	2.70	3.30	310	As above
Dibenz(a,h)anthracene	9	0.28	0.29	55	As above including WS01 (0.80) MG – Reworked clay
Dibenz(a,h)anthracene	9	0.28	0.29	55	As above including WS01 (0.80) MG –Reworked clay
Benzo(a)anthracene	6	11	19	630	WS07 (0.20) MG –Sand & Gravel Sub-base WS10 (0.20) MG –Gravel Sub-base TP10 (0.30) MG –Gravel Sub-base TP14 (0.20) Topsoil TP18 (0.30) MG - Sand & Gravel Sub-base TP22 (0.15) MG – Asphalt

Contaminant	N° of Exceedances	Cc (mg/kg)	Concentrations of exceedances (mg/kg)		Location, Depth (m) and Strata Type
			Min	Max	
Naphthalene	1	5.6	100		TP22 (0.15) MG –Asphalt
Phenanthrene	2	220	300	2400	WS07 (0.20) MG –Sand & Gravel Sub-base WS10 (0.20) MG –Gravel Sub-base TP22 (0.15) MG –Asphalt
Chrysene	5	22	31	490	WS07 (0.20) MG –Sand & Gravel Sub-base WS10 (0.20) MG –Gravel Sub-base TP14 (0.20) Topsoil TP22 (0.15) MG –Asphalt TP10 (0.30) MG – Gravel Sub-base
Indeno(1,2,3cd)pyrene	2	36	42	190	WS07 (0.20) MG –Sand & Gravel Sub-base TP22 (0.15) MG –Asphalt
Fluorene	1	400	480		TP22 (0.15) MG –Asphalt
Fluoranthene	1	560	1600		TP22 (0.15) MG –Asphalt
Pyrene	1	1200	1300		TP22 (0.15) MG –Asphalt
Benzo(k)fluoranthene	1	93	230		TP22 (0.15) MG –Asphalt

8.1.3 Persistent Organic Pollutants

Soil samples were recovered from site in the vicinity of the fire-fighting area to assess for the presence of persistent organic pollutants (PFOS and PFAS). There are currently no UK screening criteria currently for PFOS (Perfluorooctane sulfonate) and PFOA (Perfluorooctanoic acid). As such, it is common practice to use thresholds created by the US EPA and Australian DAWE as substitute.

When in comparison, none of the samples exceeded the Australian DAWE threshold; however, it should be stated that most of the samples exceed the USEPA threshold.

Table 8-3 Summary of PFOS and PFAS Exceedances

Contaminant	Location, Depth (m)	Concentrations (µg/kg)	Strata Type	USEPA Threshold (µg/kg)	DAWE Threshold (µg/kg)
PFOS	WS08 @ 0.1	0.7	Topsoil	0.378	9
	TP14 @ 0.20	6.7	Topsoil		
	TP14 @ 0.50	0.6	Subsoil		
PFOA	WS08 @ 0.1	0.2	Topsoil	0.172	100
	TP14 @ 0.20	1.7	Topsoil		

8.1.4 Polychlorinated biphenyls (PCBs)

The presence of PCBs was tested for in 1 No. sample in a location within proximity to energy equipment. No exceedances were detected above the limit of detection within the sample and will therefore not be considered further.

8.1.5 Coal Tars

Coal tar testing was undertaken on 3 No. samples of asphalt recorded from the site and no exceedances were detected within any of these samples. Further coal tar testing is however recommended on samples recovered from areas of hard standing comprising roads and runways so that either disposal requirements can be confirmed or the suitability for re-use can be confirmed.

8.1.6 Asbestos

A total of 30 No. samples recovered from the topsoil on site were screened for the presence of asbestos. Although CCs are not available for asbestos, the results indicate that no trace of asbestos was identified in any samples tested and will therefore not be considered further.

8.2 Evaluation of Risk to Human Health.

Where individual samples in a larger sample population exceed the respective GAC, statistical testing can be applied to data sets in order to make a meaningful comparison with the GAC. However as targeted investigation was carried out across the majority of the site, statistical assessment is not considered appropriate.

The risk to human health associated with the identified contamination sources is discussed below and is detailed within the revised CSM presented in Section 10.

8.2.1 Metals and PAH Contamination in Made Ground

Asphalt and Sub-Base Materials

Elevated concentrations of PAHs were encountered in 4 No. samples of shallow Made Ground that were recovered from granular sub-base materials at exploratory hole location TP10 (0.3m), WS07 (0.20m), WS10 (0.20m) and TP18 (0.30). Elevated concentrations of arsenic and lead were also encountered in the sample of Made Ground recovered from exploratory hole location TP10 (0.3m). Elevated PAHs have also been encountered in a sample of asphalt recovered from TP22 (0.15m).

Due to the highly variable nature of Made Ground, elevated metals and PAHs are likely to be present throughout the Made Ground sub-base underlying the site. The identified contamination could potentially present a risk to human health end users if this material remains within near surface materials in proposed garden and / or landscaped areas. It is therefore considered appropriate that mitigation measures will be required to alleviate the risks posed. It is recommended that asphalt and shallow sub-base materials are excavated and re-used in less sensitive areas of the site such as under roads / pavements / under areas of hard standing. Placement under proposed hard standing for the site should be sufficient to mitigate any risk to human health end users post development.

Cohesive Made Ground

Elevated concentrations of PAHs have been identified in cohesive samples of Made Ground recovered from WS01 (0.8m) and WS02 (0.3m). The Made Ground in the vicinity of these two locations extended to a maximum depth of



1.1m (WS01). The identified contamination present in the cohesive Made Ground could potentially present a risk to human health end users, if this material remains in close proximity to the surface within proposed garden and / or landscaped areas. It is therefore considered appropriate that mitigation measures will be required to alleviate the risks posed.

At this stage, an allowance should be made for an appropriate cover system (subject to an assessment of proposed finished site levels) to be incorporated in gardens / landscaped areas for any areas of the proposed development coinciding with cohesive Made Ground. Localised excavation and removal of the Made Ground material may be required to facilitate proposed levels across the site and the incorporation of the cover system. Elsewhere, any hard standing proposed for the site should be sufficient to mitigate the risk to human health end users post development should this coincide with the cohesive Made Ground material.

Further investigation in the areas where buildings and hard standing is located is recommended to further clarify the extent of Made Ground present and the contamination status of the soils, which will inform the extent of mitigation measures required.

8.2.2 PAH and PFOS / PFOA Contamination in Topsoil & Subsoils (Firefighting Area)

Elevated concentrations of PAH's were detected at 2 No. locations within Topsoil samples recovered (WS08 - 0.20m and TP14 -0.20m). PFOS and PFOA has been identified above the limit of detection (LOD > 0.1 µg/kg) in both of these samples, alongside a sample of subsoil also recovered from TP14 (0.5m). It should be noted that exceedances of PFOS / PFOA are within DAWE thresholds but exceed the USEPA threshold.

Both of the samples recovered from the Topsoil are located adjacent to an area of concrete covered runway where firefighting apparatus is located and where frequent firefighting training is understood to take place. PFOS / PFOA are also known to be used within firefighting foams and therefore the source can be narrowed down to the use of firefighting foams within this area of the site. Aside from this, the elevated PAHs identified are likely to be attributable with the burning of oils / fuels / combustible items associated with the firefighting training area which has impacted near surface soils adjacent to the runway by leaching / run-off of contaminants. As such, a widespread localised source of PAH / PFOS / PFOA contamination (alongside other possible unidentified contaminants) is likely to be present elsewhere within the firefighting area.

It is therefore recommended that further targeted investigation and testing is undertaken across this area of the site (preferably once the hardstanding of the runway is removed) to delineate the extents of PAH and PFOS/ PFOA contamination within the shallow soils and to allow for remediation. This is likely to comprise localised excavation and removal of contaminated zones / hotspots.

At this stage, it is recommended that an allowance should be made for an appropriate cover system to be incorporated within gardens / landscaped areas of the proposed development which coincide with this area of the site.

It should also be confirmed with the Local Authority which screening criteria would be acceptable to mitigate any future risk to human health end users from the low concentrations of PFOS / PFOA remaining in the topsoil / subsoils.



8.2.3 Natural Subsoils / Topsoil

None of the samples of natural topsoil / subsoils tested elsewhere on site (other than in the samples mentioned above) contained chemical concentrations in excess of CCs with respect to a residential end use. With this in mind, the topsoil and subsoil across the site are considered suitable for re-use where required.

8.3 Controlled Waters Risk Assessment

The controlled waters risk assessment considers the potential impact of on-site contamination to the relevant controlled water receptors identified within the ICSM. These are summarised as follows:

- Secondary Undifferentiated Aquifer –Superficial Geology
- Secondary A / B Aquifer –Bedrock Geology
- Inland rivers on northern and eastern boundaries.
- No potable groundwater abstractions recorded within 2km.

8.3.1 Assessment Criteria

The approach adopted to assessing risks to Controlled Waters is based principally on considering the concentrations of contaminants identified within the groundwater / leachate samples obtained in comparison to relevant GAC.

Several Water Quality Standards (WQS) have been applied as Generic Assessment Criteria (GAC), these include Water Framework Directive standards and thresholds (WFD), the Freshwater Environmental Quality Standards (EQS), the UK Drinking Water Quality Standards (DWQS) and WHO Guidelines for Drinking Water Quality values which have been used as initial conservative GAC to assess whether further assessment or discussion in terms of the risks to controlled waters is required.

Contaminant concentrations that exceed the applied GAC are then considered in the context of the site's environmental setting as to whether further qualitative or quantitative assessment is required.

In the absence of a sensitive potable groundwater supply, it was considered appropriate to adopt EQS for freshwater when assessing the risk to groundwater and surface water. Where EQS are not available, WHO and UK DWS have been adopted as the relevant screening criteria.

8.3.2 Surface Water Testing

To assess the risk of any contamination in site soils / groundwater beneath the site to surface water receptors, a total of 2 No. surface water samples were recovered from the stream running through the east of the site, both upstream and downstream as referenced in the laboratory results. Following a direct comparison of the surface water laboratory results with the water quality standards, the following exceedances were identified:

Table 8-4 Summary of Surface Water Test Results Exceeding GAC

Contaminant	GAC	GAC Source	No. samples exceeding Cc	Concentrations of exceedances (µg/l)	Reference
Copper	1 (bioavailable)	EQS	2 from 2	13	Upstream & Downstream



The above results indicate marginal exceedances of the EQS for copper in surface water samples recovered the stream located on-site. However, no discernible trend in concentrations is noted upstream or downstream of the site and the concentrations recorded are considered typical for stream water. Additionally, non-detectable concentrations of TPH, PAHs and PFOS / PFOA have been identified in the surface water recovered from site. It is therefore considered that current site activities and the existing soils underlying the site are not impacting on the surface water quality within the stream.

8.3.3 Groundwater Analysis

The risk to the aquifers underlying the site / surrounding area is considered to be generally low (no potable abstractions in the vicinity and low permeable clays identified across the site) and a general lack of groundwater was identified in the MMG deposits below the site.

However, as PFOS / PFOA was detected on the shallow soil samples at WS08 and TP14 located in the vicinity of the fire-fighting area, it was considered prudent to ascertain if any impact to groundwater had occurred in this area of the site.

As a preliminary assessment, a groundwater sample was recovered from 1 No. borehole (WS01) in the vicinity of the firefighting area which was screened within the underlying natural deposits. Subsequent laboratory testing has been carried out to establish the current level of contamination within the groundwater.

Following a direct comparison of the groundwater laboratory results with water quality standards, the following exceedances were identified within samples of groundwater recovered from the site when taking into account the Maximum Allowable Concentration (MAC) of the contaminant.

Table 8-5 Summary of Groundwater Analysis Results & Exceedances

Contaminant	GAC	GAC Source	No. samples exceeding GAC	Range of Concentrations (µg/l)	Location
Copper	1.0 (bioavailable)	EQS	1 from 1	5.8	WS01

The above results indicate marginal exceedances of the EQS for copper in the groundwater sample recovered from WS01. However, as with the surface water samples, no detectable concentrations of TPH, PAHs and PFOS / PFOA have been identified. It is therefore considered that current site activities are not impacting on the groundwater quality within the vicinity of the firefighting area.

8.3.4 Soil Leachability Testing

To assess the potential risk to Controlled Waters from the recorded concentrations in soils, the use of leachability is generally used to determine contaminant mobility within the ground, with the results of these tests compared with the determinants respective environmental quality standards (EQS)

Following a direct comparison of leachate laboratory results with the environmental quality standards, the following exceedances were identified in samples of Made Ground and natural strata recovered from the site (taking into consideration the maximum allowable concentration).

Table 8-6 Summary of laboratory leachate exceedances.

Contaminant	Number of Exceedances	Cc (µg/l)	Concentrations of exceedances (µg/l)		Location, Depth (m) and Strata
			Min	Max	
Copper	8 from 8	1 (bioavailable)	8.2	32	WS02 (0.30) MG –Clay WS10 (0.60) - MMG TP28 (0.90) - Lacustrine Deposits TP24 (0.4) - MMG TP38 (0.3) - MMG TP44 (0.4) - MMG TP36 (0.4) - MMG TP10 (0.30) MG – Gravel Sub-base
Zinc	6 from 8	10.9 (bioavailable)	11	39	WS02 (0.30) MG –Clay WS10 (0.60) - MMG TP28 (0.90) - Lacustrine Deposits TP44 (0.4) - MMG TP36 (0.4) - MMG TP10 (0.30) - MG –Gravel Sub-base

As noted above, slightly elevated levels of leachable copper and zinc were recorded in excess of the EQS value in 2 samples of Made Ground located on site. Slightly elevated levels of leachable copper were also recorded in 6 samples of natural strata and slightly elevated levels of leachable zinc were recorded in 4 samples of natural strata.

Some slightly elevated concentrations of leachable lead were also recorded in samples of the Made Ground and natural subsoils in excess of the annual average concentrations; however, none of the concentrations were found to exceed the Maximum Allowable Concentration (MAC) when in comparison and will therefore not be considered further.

8.3.5 Evaluation of Risk to Controlled Waters

Based on the investigation works and laboratory testing undertaken to date, the contamination testing undertaken has identified:

- Slightly elevated levels of leachable dissolved copper and zinc in 2 sample of Made Ground in excess of the EQS value.
- Slightly elevated levels of leachable dissolved copper (6 samples) and zinc (4 samples) in natural strata in excess of the EQS value.
- Marginally elevated levels of dissolved copper in 1 sample of groundwater and 2 No surface water samples recovered from site in excess of the EQS value.

The site is located in an area which is deemed relatively low sensitivity with regard to the risk to groundwater due to the absence of a sensitive potable groundwater supply but with a moderate sensitivity to surface water due the presence of on-site and off-site surface water receptors. There is also a distinct lack of groundwater beneath the site at shallow depth, which is generally only encountered within the Lacustrine Deposits located within the northeast.

Marginally elevated concentrations of leachable copper and zinc have also been recorded within both the Made Ground and natural strata and these are considered to be attributable to naturally occurring background concentrations present within the material.

In terms of any future risk associated with leachable contaminants within the Made Ground, the development is predominantly to comprise hardstanding which will significantly inhibit infiltration of rainwater through any Made Ground soils which in turn will limit soil contamination leaching into the underlying groundwater. With this in mind, the risk to surface water / groundwater is considered low.

Surface water and groundwater testing has also confirmed that current site activities are not impacting on surface water or groundwater quality in the vicinity of or arising from the firefighting area within the east of the site. However, further assessment post demolition might be required to confirm the risk elsewhere on-site.

To prevent any risk from potential surface water run-off from excavated stockpiles of materials during construction, as a measure of good practice, any materials excavated and stockpiled on site should be positioned to take into consideration the potential for surface water / leachate run-off to impact surface water receptors. Control measures should comprise keeping the sides of stockpiles at a low gradient to minimise surface water run-off and appropriate measures to prevent the ingress of suspended solids into surface waters.

8.4 Property and Infrastructure Risk Assessment

8.4.1 Building Materials / Buried Concrete

Risks to building materials associated with aggressive ground conditions is addressed in Section 7.10 and should be designed accordingly.

8.4.2 Potable Water Supply Pipes

The investigation requirements for the selection of potable water pipe material are set out in UKWIR Report 10/WM/03/21 "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (UKWIR, 2010)".

This report has specific investigation requirements and as such detailed investigation of proposed utility routes was not within the scope of this investigation. However, based on current information conventional plastic water supply pipes are likely to be suitable for the majority of the site.

It is however recommended that the contamination test results are made available to the relevant water company to allow design of any required potable water supply pipe work to be undertaken and to confirm requirements for any further assessment.

8.5 Ecological Risk Assessment

Soil results were compared to phytotoxic guideline values as outlined in Table 1 within BS3882:2007. No elevated contaminants were identified in the natural soils and therefore the probability of phytotoxic contaminants affecting vegetation is considered unlikely.

The risk to ecological receptors is anticipated to be negligible given the concentrations encountered in the soils. However, the impact to ecological receptors from proposed construction activities should always be considered.



9 Ground Gas & Vapour Risk Assessment

9.1 Ground Gas Monitoring

Gas and groundwater monitoring has been carried out on 6 No. monitoring visits to date on 15th February, 22nd February, 3rd March, 8th March, 28th April and 16th May 2022 at atmospheric pressures of between 996mb and 1030mb, the results of which are summarised in Section 6-7.

The monitoring data is presented in Appendix E.

The ground gas risk assessment and recommendations are presented below.

9.2 Ground Gas Risk Assessment Methodology

The risk to end users from ground gas has been assessed in accordance with the methodology presented in the following referenced documents:

- British Standard BS8576:2013 –Guidance on investigations for ground gas –permanent gases and Volatile Organic Compounds (VOCs).
- British Standards BS8485:+A1:2019 –Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings.
- CIRIA C665: Assessing risks posed by hazardous ground gas to buildings, 2007.

9.3 Derivation Gas Screening Value (GSV)

Both the CIRIA Report and the British Standard require the calculation of a Gas Screening Value (GSV). This is calculated as the maximum recorded percentage gas concentrations multiplied by the maximum gas flow rate. Where concentrations or flow rates less than the limit of detection on the analyser have been recorded, the limit of detection has been used (0.1% for gas concentration, 0.1 l/hr for gas flow rates).

The main method of characterising a site is using the method proposed by Wilson and Card (1999) and can be used for all types of development except for conventional low-rise housing with a ventilated underfloor void. The method uses both gas concentrations and borehole flow rates to define a characteristic situation for a site based on the limiting borehole gas volume flow for methane and carbon dioxide.

The GSVs and corresponding characteristic situation is summarised below in Table 9-1 which has been reproduced from Table 8.5 presented within CIRIA C665 and Table 2 within BS8485.



Table 9-1 Gas Screening Value Thresholds –Modified Wilson & Card Classification

CIRIA –No Sub-floor Void		Risk Classification		Additional Factors
Characteristic Situation	GSV (CH ₄ & CO ₂)			
CS1	<0.07	Very low risk		Typically, methane <1 % and / or carbon dioxide <5 %. Otherwise consider increase to CS2.
CS2	<0.7	Low risk		Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to CS3.
CS3	<3.5	Moderate risk		
CS4	<15	Moderate to high risk		Quantitative risk assessment required to evaluate scope of protective measures.
CS5	<70	High risk		
CS6	>70	Very high risk		

The NHBC have also developed a characterisation system that is similar to the Wilson and Card system, but is specific to low-rise housing with a clear ventilated underfloor void. This is a risk-based approach that is designed to allow an identification of gas protection for a low-rise housing development by comparing the measured gas emission rates to generic “traffic light” scenarios.

The traffic light system also includes “typical maximum concentrations” and are provided for initial screening purposes and risk-based gas screening values (GSVs) for consideration in situations where the typical maximum concentrations are exceeded. The “typical maximum concentrations” can be exceeded in certain circumstances should the conceptual site model indicate it is safe to do so. This is where professional judgement will be required, based on a thorough understanding of the gas-regime identified at the site where monitoring in the worst-case conditions has occurred.

The CIRIA 665 report author (Steve Wilson) since provided further clarification regarding which guidance should be adopted for residential houses that have suspended cast in-situ concrete floor slabs; for the avoidance of doubt, it was confirmed that the NHBC GSVs within the CIRIA 665 guidance should be adopted.

The NHBC GSVs and typical maximum concentrations are summarised below in Table 9-2 reproduced from Table 8.7 presented within CIRIA C665.



Table 9-2 Gas Screening Value Thresholds –NHBC Traffic Light System

NHBC –Sub-floor Void			Methane Typical Maximum Concentrations (% v/v)	Carbon Dioxide Typical Maximum Concentrations (% v/v)
Classification	GSV (CH ₄)	GSV (CO ₂)		
Green	<0.16	<0.78	1	5
Amber 1	<0.63	<1.56	5	10
Amber 2	<1.56	<3.13	20	30
Red	>1.56	>3.13	-	-

It should be recognised that the GSV thresholds in the above tables, are guideline values and not an absolute threshold and that the guideline GSV can be exceeded in certain circumstances should the CSM indicate it is safe to do so and should not generally be exceeded without completion of a detailed gas risk assessment taking into account site-specific conditions.

9.4 Calculated Gas Screening Values (GSV)

Gas screening values have been calculated using maximum values from the entire gas monitoring data set. The calculated GSVs are presented in the table below. A GSV has been calculated that represents the gas hazard present for the whole Site. This is based on similar ground conditions having been identified across the site. The data is presented below.

Table 9-3 Calculated GSV.

Chg Methane (% v/v)	Chg Carbon Dioxide (% v/v)	Gas Flow Rate (l/hr)	Hazardous Gas Flow Rate, Q _{hg} CH ₄ (l/hr)	Hazardous Gas Flow Rate, Q _{hg} CO ₂ (l/hr)	NHBC Traffic Light System	Wilson & Card Classification
0.1	6.7	1.4	0.0014	0.0938	Green	CS2

9.5 Ground Gas Protection Recommendations

Based on the gas monitoring undertaken to date, the calculated gas screening value for the site would indicate a 'Green' classification under the NHBC Traffic Light System and CS-2 in accordance with BS8485:2015+A1:2019.

The CS2 classification is indicated to have been triggered by a slightly elevated concentration of CO₂ detected within WS03 and WS23 on 1 No. gas monitoring visit (out of 6 No. visits) and a slightly elevated flow rate at WS03 and is not generally representative of the wider site conditions.

Therefore, at this stage, there is no justification for increasing the level of gas protection measures across the whole site. However, as slightly elevated concentrations of CO₂ have been identified at WS03 and WS23 localised to an existing hanger in the west of the site, an allowance should be made for gas protection measures to be incorporated

for any plots located within the vicinity of WS23 and WS03 subject to further parcel specific ground gas monitoring and risk assessment.

Based on the gas monitoring results obtained, the concentrations of ground gases are not considered to be at a level which would pose any significant risk to construction workers working in an external environment at surface level. Working within confined spaces should however be avoided wherever possible, however if this work is unavoidable then the works should be carried out in strict accordance with the confined spaces regulations to include gas monitoring during the works.

9.6 Radon Protection Measures

Radon protection measures are not required in the construction of new properties.

9.7 Vapour Risk and Membranes

No evidence of vapours has been noted during the intrusive investigation and as such the risk associated with vapours arising from the site is considered negligible. However, further assessment of the on-site soils in the vicinity of the current tanks / under buildings / hard stand is recommended.



10 Revised Environmental Risk Assessment

In accordance with the requirements of LCRM 2020, the S-P-R potential contaminant linkages identified by the intrusive investigation are discussed below.

A summary of the findings is presented below.

10.1 Identified Sources

Based on the GQRA that has been carried out within Section 7.0, the potential sources of contamination that could impact on the identified receptors are summarised below.

- Elevated PAHs encountered in samples of shallow Made Ground (granular sub-base materials) at exploratory hole location TP10, WS07, WS10, and TP18 associated with areas adjacent to hangars, runways and former aircraft aprons.
- Elevated concentrations of arsenic and lead encountered in the Made Ground recovered from exploratory hole location TP10 (0.3m).
- Elevated PAHs encountered in a sample of asphalt recovered from TP22 (0.15m).
- Elevated PAHs identified in samples of cohesive Made Ground recovered from WS01 (0.8m) and WS02 (0.3m).
- Elevated PAHs detected at 2 No. locations within Topsoil at WS08 (0.20m) and TP14 (0.20m) in the vicinity of the firefighting area. PFOS and PFOA has been identified above the limit of detection in both of these samples, alongside a sample of subsoil also recovered from TP14 (0.5m).
- Slightly elevated leachable copper and zinc identified in the Made Ground and natural strata.
- Slightly elevated levels of carbon dioxide identified at WS03 and WS23 localised to the west of the site

10.2 Identified Pathways

- Ingestion, dermal contact and inhalation of contaminated particulates.
- Direct contact of buried concrete with aggressive ground.
- Migration of leachable contaminants.
- Migration of asphyxiant and explosive/ harmful gasses into confined spaces.

10.3 Identified Receptors

- Human health end users.
- Construction workers.
- Surface water on-site.
- Buried concrete and buried services.

10.4 Revised CSM and Potential Contaminant Linkages

Based on the above, the revised CSM is presented in Table 10-1 below.

Appropriate remedial / mitigation measures to break the potential contaminant linkages are discussed where required.



Table 10-1 Revised CSM.

Contaminant Linkage			Plausible Linkage of Concern?	Comments / Proposed Mitigation
Source (S)	Pathway (P)	Receptor (R)		
Human Health				
Made Ground –Elevated PAHs, Arsenic and Lead identified.	P1: Ingestion of contaminated particulates. P2: Dermal contact. P3: Inhalation of contaminated dust / particles.	R1: Site end users.	Yes (Limited) - localised to areas of Made Ground	Localised removal of Made Ground and placement under areas of hardstanding and / or the incorporation of a cover system in gardens / landscaped areas. The presence or hard stand elsewhere will mitigate the risk of future site users coming into contact with contaminated soils. The potential also exists for unidentified contamination to be present in Made Ground / natural subsoils in areas of the site that could not be accessed during this investigation (such as under buildings / runways / near to buried fuel tanks etc) and these areas should be assessed prior to construction.
		R2: Construction workers / maintenance workers.	Yes	Short-term risk would be mitigated by the use of PPE and provision of suitable welfare facilities.
Slightly elevated CO2 arising from the vicinity of WS03 and WS23.	P8: Migration of asphyxiant and explosive/ harmful gasses into confined spaces.	R1: Site end users	Yes (Localised to WS03 and WS23)	Slightly elevated (>5%) CO2 concentrations identified in 2 No. boreholes WS23 and WS03 on 1 No. monitoring visit out of 6 visits. Localised to an aircraft hangar in the west of the site where shallow Made Ground was identified. An allowance should be made for gas protection measures to be incorporated for any plots located within the vicinity of WS23 and WS03 subject to further parcel specific ground gas monitoring.

Contaminant Linkage			Plausible Linkage of Concern?	Comments / Proposed Mitigation
Source (S)	Pathway (P)	Receptor (R)		
Controlled Waters				
Slightly elevated levels of leachable copper and zinc within Made Ground and natural strata.	P5: Surface water run-off and / or migration of contaminated groundwater.	R5: Inland rivers located on site / adjacent site.	Yes (but limited risk)	Slightly elevated leachable copper and zinc have been identified within the Made Ground and natural sub-soils. To prevent any risk from run-off of leachate from excavated stockpiles of Made Ground / natural sub-soils, during construction as a measure of good practice, any materials excavated and stockpiled on site should be positioned to take into consideration the potential for surface water / leachate run-off to impact surface water receptors.
Property and Infrastructure				
Elevated sulphates identified within the natural Lacustrine Deposits	P6: Direct contact with aggressive ground.	R6: Buried concrete & structures on and off-site.	Yes (mostly limited to the Lacustrine Deposits)	Design Sulphate Class DS-1 AC-1 should be used for design purposes for foundations placed within the Mercia Mudstone Group deposits. Design Sulphate Class DS-4 and AC-4 should be used for design purposes for foundations placed within the Lacustrine Deposits. Further delineation and testing of in-situ Made Ground materials / Lacustrine Deposits on-site is recommended prior to construction so the appropriate concrete classification can be determined.

11 Conclusions & Recommendations

This Geo-Environmental Assessment is based upon the findings of an intrusive site investigation undertaken in February 2022.

It is understood that the site is proposed to be developed for a residential land use.

The Geo-environmental assessment has produced the following key conclusions and recommendations which should be implemented as part of the future redevelopment of the site to ensure suitability for the proposed end-use and to meet the requirements of planning.

Environmental Risk Assessment Summary	
<i>Human Health Risk Assessment</i>	<u>Contamination Sources:</u> Elevated concentrations of PAHs and metals have been encountered in encountered in samples of shallow Made Ground (granular sub-base materials and cohesive Made Ground) encountered within areas adjacent to hangars, runways and former aircraft aprons. Elevated concentrations of PAH's were also detected within the Topsoil in the vicinity of the firefighting area. PFOS and PFOA has been identified above the limit of detection in samples of both the topsoil and subsoil in this area. In addition to the above, the potential exists for unidentified contamination to be present in areas of the site that could not be accessed during this investigation (such as under buildings / runways / near to buried fuel tanks etc) and these should be assessed prior to construction. <u>Remediation / Mitigation Measures</u> It is recommended that asphalt and any shallow sub-base material is excavated and re-used in less sensitive areas of the site such as under roads / pavements / under areas of hard standing. Placement under hard stand proposed for the site should be sufficient to mitigate any risk to human health end users post development. It is recommended that an allowance should be made for an appropriate cover system to be incorporated in gardens / landscaped areas for the proposed development which coincides with Made Ground / firefighting area. Hard standing proposed for the remainder of the site should be sufficient to mitigate any risk to human health end users post development elsewhere.
<i>Controlle Waters Risk Assessment</i>	Surface water and groundwater testing has confirmed that current impacting the site surface or groundwater quality within the vicinity of or arising from the firefighting area in the east of the site. However, further assessment post demolition may be necessary to confirm the risk elsewhere on site.
<i>Ground Gas</i>	At this stage, it is considered that gas protection measures will not be required for the majority of the site. However, slightly elevated concentrations of CO2 have been identified at WS03 and WS23 localised to an existing hanger in the west of the site. Therefore, an allowance should be made for gas protection measures to be incorporated for any plots located within the vicinity of WS23 and WS03 subject to further parcel specific ground gas monitoring.
<i>Vapour Risk</i>	No evidence of vapours has been encountered in the off-site soils associated with the identified hydrocarbon contamination sources. However, further assessment of the on-site soils located in the vicinity of the current tanks / under buildings / hardstanding is recommended.



<i>Ecological Risk</i>	Potential Impacts from contamination sources is considered negligible. However, the impact to ecological receptors from proposed construction activities should always be considered.
Geotechnical Assessment Summary	
<i>Foundations</i>	Traditional strip / trenchfill foundations are generally considered appropriate for most of the development proposals for the site, bearing within the firm to stiff cohesive Mercia Mudstone Group deposits proven to underly the majority of the site, subject to consideration of the loads imposed. Lacustrine Deposits were encountered in the northeast of the site noted to be very soft (SPT N Values <8 blows) and of extremely low to low and medium strength. As such, traditional foundations are not recommended for the Lacustrine Deposits. An allowance for deepening foundations / alternative foundation types corresponding with the Lacustrine Deposits should be made at this stage. Ground improvement techniques (such as vibro stone column ground improvement) with reinforced concrete strip foundations may provide a suitable foundation solution for plots where low SPT N values / poor low strength ground conditions have been encountered.
<i>Floor Slabs</i>	Both ground bearing and suspended floor slabs may be suitable for the site, subject to developer preference and further assessment of proposed ground levels / tree influence.
<i>Drainage</i>	The cohesive geology encountered across the site would suggest that soakaway drainage would not be considered feasible; an alternative drainage solution is therefore likely to be required. The local authority may request that in-situ infiltration testing is carried out prior to construction in order to confirm this preliminary assessment.
<i>Concrete</i>	• MMG Deposits- DS-1 and AC-1 should be used for design purposes. • Lacustrine Deposits- DS-4 and AC-4 should be used for design purposes. Further delineation and testing of in-situ Lacustrine Deposits and Made Ground materials at potential founding depth on-site is recommended prior to construction so that the appropriate concrete classification can be confirmed for buried concrete.
<i>Roads & Hardstanding</i>	Based on the ground conditions encountered, it is considered appropriate that preliminary CBR design values of 3% to 5% should be achieved for near surface soils at the site. In-situ CBR testing is recommended at formation level once development proposals have been established.
<i>Coal Mining Subsidence</i>	Anecdotal evidence has arisen in relation to potential subsidence of one of the runways (21/03) on-site which is estimated to have taken place in the late 70s / early 80s. It was confirmed that the runway had to be rebuilt and it is understood that this was paid for by the National Coal Board as it was believed that historical mining legacy may have caused the runway to collapse. The Coal Authority Report obtained however indicates no record of this. Taking the available information into account, it is considered unlikely that deep underground mining would have impacted the site surface with regards to collapse / void migration, as the coal workings are located at significant depth beneath the site. Additionally, it is also considered unlikely that subsidence of the runway would have been caused by the collapse of historical mining activities. Further contact has since been made with the Coal Authority to assess if they have any historical Coal Board records in regard to the anecdotal evidence received. The Coal Authority have however confirmed that they only require to disclose details of claims made



	since 31 st October 1994 with this 'cut off' date being introduced on 1st July 2011 therefore we would not hold any information prior to this date.
UXO Risk	Supervision of excavations / boreholes by a UXO Engineer was undertaken at all times during the intrusive investigation. No evidence of UXO was encountered during the works; however, provision should be given to a wider UXO clearance exercise / supervision during any further works and during the construction phase.
Recommendations	
It would be beneficial to contact the warranty providers / building control at an early stage to assess the implication of this information on the proposed development and to assess the requirement for further investigation or to confirm any preventative measures to be incorporated into the development.	
Further investigation works are recommended to be undertaken beneath existing on-site buildings, runways (including within the firefighting area), and any other areas of hard stand (post demolition). This is to confirm the depth of Made Ground to aid in foundation design and to determine the contamination status of the underlying soils and to confirm any associated risk. This should include further assessment under / in the vicinity of existing buildings for the potential presence of radium contamination (Ra-226).	
It is recommended that further targeted investigation should be carried out in the area of the former sewage works to further ascertain if any buried infrastructure / associated contamination is present.	
Further targeted investigation should be carried out in the area of the underground fuel storage tanks that could not be accessed during this investigation alongside underlying existing fuel storage tanks once tanks have been decommissioned to ascertain if any localised hydrocarbon contamination is present.	
Further delineation and testing of in-situ Made Ground materials / Lacustrine Deposits on-site is recommended prior to construction so the appropriate concrete classification can be determined.	
Further parcel specific ground gas monitoring is recommended within the vicinity of WS03 and WS23 in the west of the site once a plot layout has been established.	
A remediation strategy will be required for the site and should be agreed with the Local Authority prior to implementation.	
A reclamation strategy / enabling works specification will be required.	
If it is proposed to transport and re-use site won materials to another development a Materials Management Plan (MMP) approved by CL:AIRE would be required to facilitate this process	



12 References

The following documents are referenced in the report;

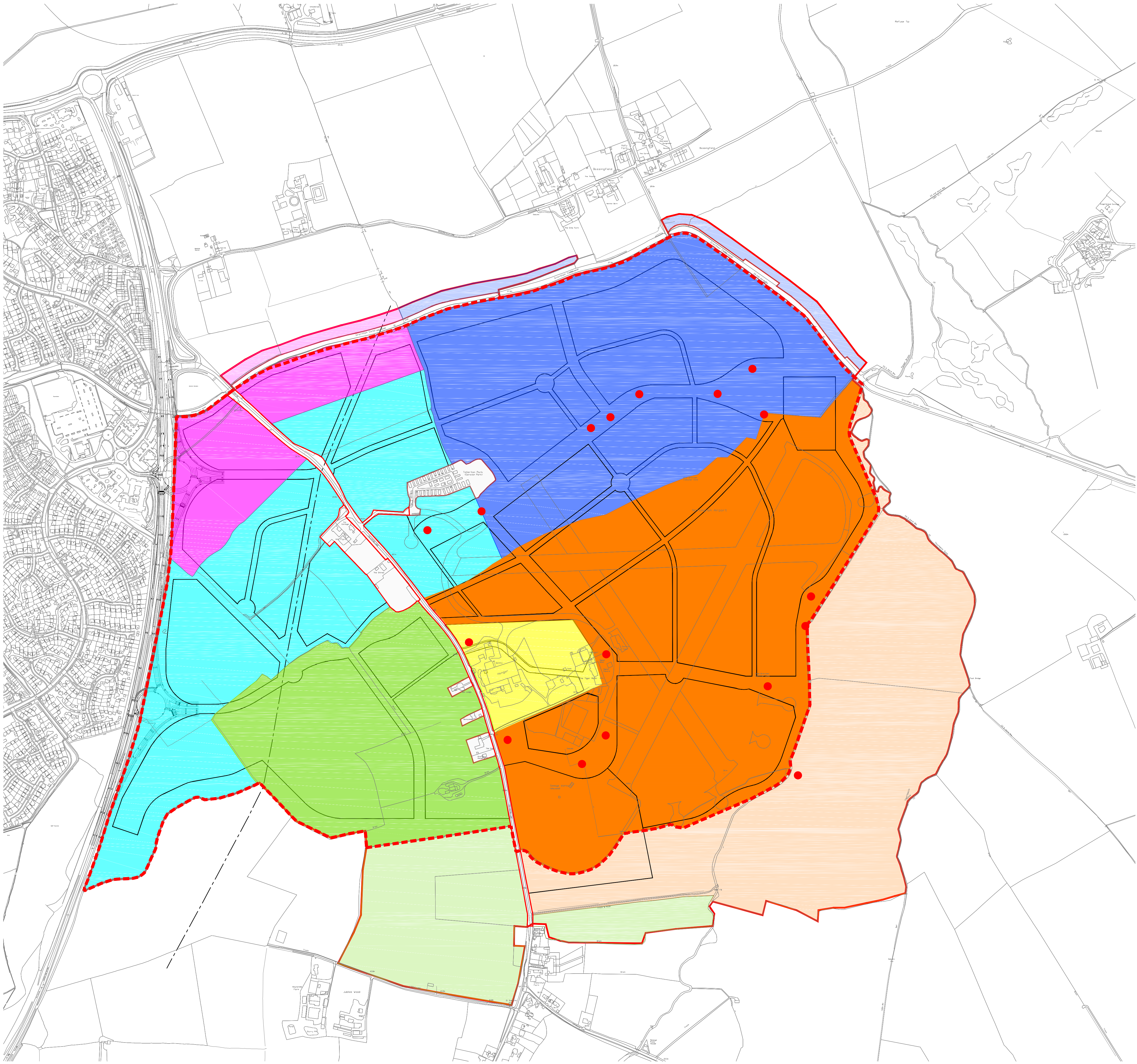
1. Desk Study Report, (PJSG) dated December 2021.
2. Land Contamination Risk Management (LCRM) 2020 <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>
3. British Standards Institution (BSI) BS 10175:2015 Investigation of Potentially Contaminative Sites Code of Practice 2015.
4. BS 5930 'Code of Practice for Site Investigations' 2015+A1:2020.
5. BS EN ISO 22476-3:2005+A1:2011; Geotechnical investigation and testing. Field testing. Standard penetration test.
6. BS1377: 1990, Methods of Test for Soils for Civil Engineering Purposes.
7. BS EN ISO 17892:2014+ Geotechnical investigation and testing –Laboratory Testing of Soil.
8. BS 8582:2013: Code of practice for surface water management for development sites.
9. CIRIA-R143-the-Standard-Penetration-Test-SPT-Methods-and-Use-1995.
10. BRE Special Digest 1 'Concrete in Aggressive Ground 2005'
11. BS3882:2015 Specification for Topsoil.
12. CL:AIRE SP1010 Development of Category 4 Screening Levels for Land Affected by Contamination (Rev 2) dated 24th September 2014.
13. The LQM/CIEH Suitable 4 Use Levels published 2015.
14. UKWIR Report 10/WM/03/21 "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (UKWIR, 2010)".
15. BS8576:2013 –Guidance on investigations for ground gas –permanent gases and Volatile Organic Compounds (VOCs).
16. BS8485:+A1:2019 –Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings.
17. Construction Industry Research and Information Association (CIRIA). 2008. Assessing the risk posed by hazardous gases to buildings. C665.



Drawings

Preliminary landownership plan (4324-L-113-B)
PJSG21-55-DR-001 -Site Location Plan
PJSG21-55-DR-002 -Site Features Plan
PJSG21-55-DR-003 –Exploratory Hole Location Plan

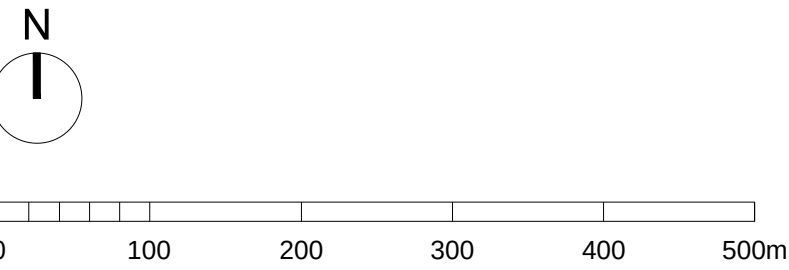




NOTES

All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Landscape Architect.

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- Land to be removed from the Green Belt 244.37ha
- Planning boundary 318.64ha
- Tollerton Lane 2.60ha
- Grantham Canal 2.40ha
- Potential Outer Site Boundary without Tollerton Land and Grantham Canal 313.64ha
- Existing services retained in situ (easement tbc to add)
- Existing Pillbox to be retained

- Land Ownership
(Options in brackets)
- Havenwood (Barwood Land) 17.4 Ha
 - Nottingham County Council 48.5 Ha
 - Nottingham City Council 53.6 Ha
 - Sherwood (Barwood Land) 60.6 Ha
 - Nottingham Airport Ltd/John A Wells (Bloor Homes) 126 Ha
 - Nottingham Airport Ltd (Land being developed for new Hospital) 7.6 Ha

DRAFT

B	16.06.15	Key updated, Hatch style changed.	CRD/DH
A	26.03.15	Land ownership Areas A-C.	CRD
-	16.09.14	First Issue	JVF

rev	date	description	by
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- masterplanning
- environmental assessment
- landscape design
- urban design
- ecology
- architecture
- arboriculture

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client
Taylor Wimpey, Bloor Homes, Nottingham City Council and Nottinghamshire County Council

project
Land to the East of Gamston and North of Tollerton

drawing title
LAND OWNERSHIP BOUNDARIES

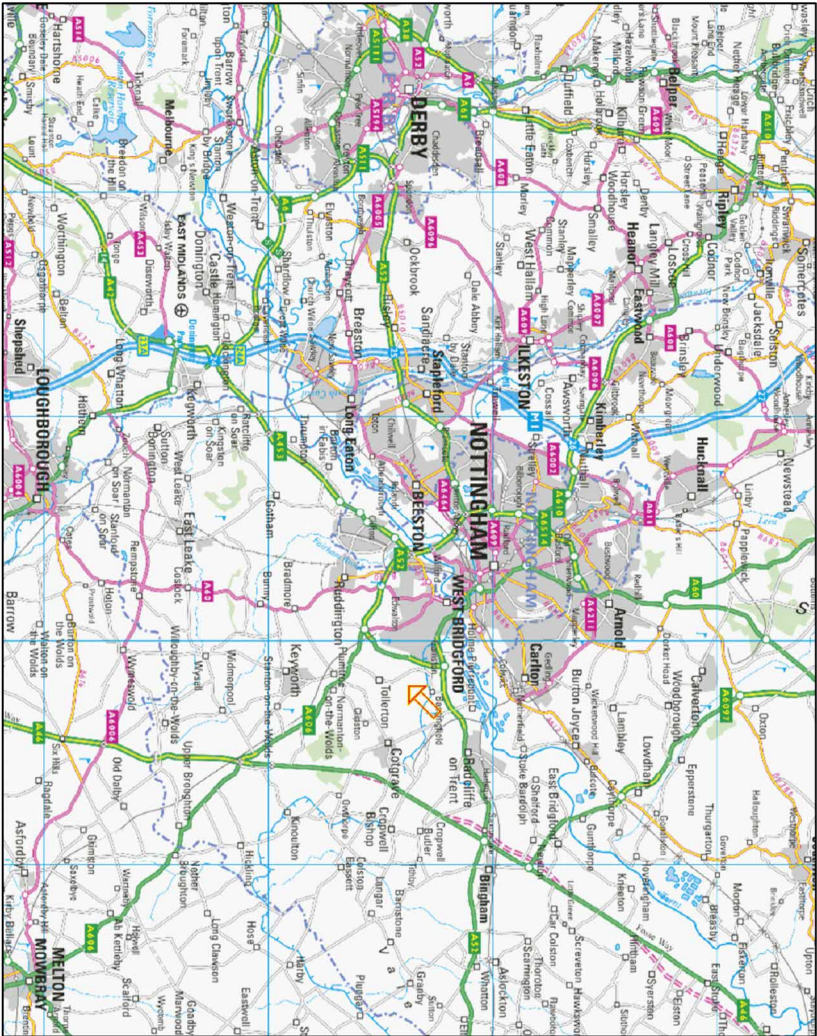
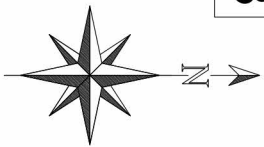
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drawn
JVH/DH

date
June 2015

drawing number
4324-L-113

rev
B



General Notes

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3. All dimensions are in metres unless noted otherwise. All levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the Engineer immediately.



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Client

Vistry Group

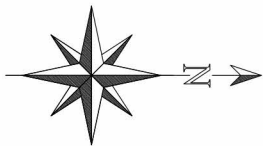
Project

Tollerton Airport

Drawing Title

Site Location Plan

Initial	NB	VH	Information	NTS	Revision
Date	16.11.21	16.11.21	Project Number	Drawing Number	Revision
PJSG21-55			DR-001	-	



Photograph 4
Heating oil system

Photograph 5
Shed which previously contained an electric transformer

Photograph 3
Above ground fuel tank / bowser

Photograph 2
Underground Fuel Tanks

Photograph 1
Control Tower

Photograph 14
Location of 2 above ground fuel tanks

Photograph 13
Area where old oil drums are present

Photograph 12
Location of current sewage chamber

Photograph 11
Approximate location where light aircraft crash occurred in circa. 2019

Photograph 10
Approximate area where former sewage works was located

Photograph 6
Concrete features

Photograph 7
Footbridge

Photograph 8
Former grass runway and helicopter testing area

Photograph 9
Fire training area

General Notes

1. Do not scale this drawing. If in doubt, ask.
2. This drawing is to be read in conjunction with all other relevant Engineers, Architects and specialist design drawings and details.
3. All dimensions are in metres unless noted otherwise. All levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the Engineer immediately.
5. This drawing is to be read in conjunction with Appendix A of PJSJG Desk Study (Ref. - PJSJG21-55-RT-01).

Rev	Date	Amendments	By	Chk



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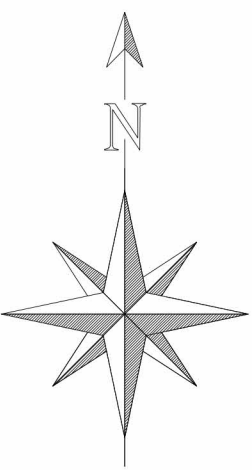
Project

Tollerton Airport

Drawing Title

Site Photographs Plan

	Drawn	Checked	Status	Scale	
Initial	NB	VH	INFORMATION	NTS	
Date	03.12.21	06.12.21			
Project Number			Drawing Number	Revision	
PJSJG21-55			DR-002	-	

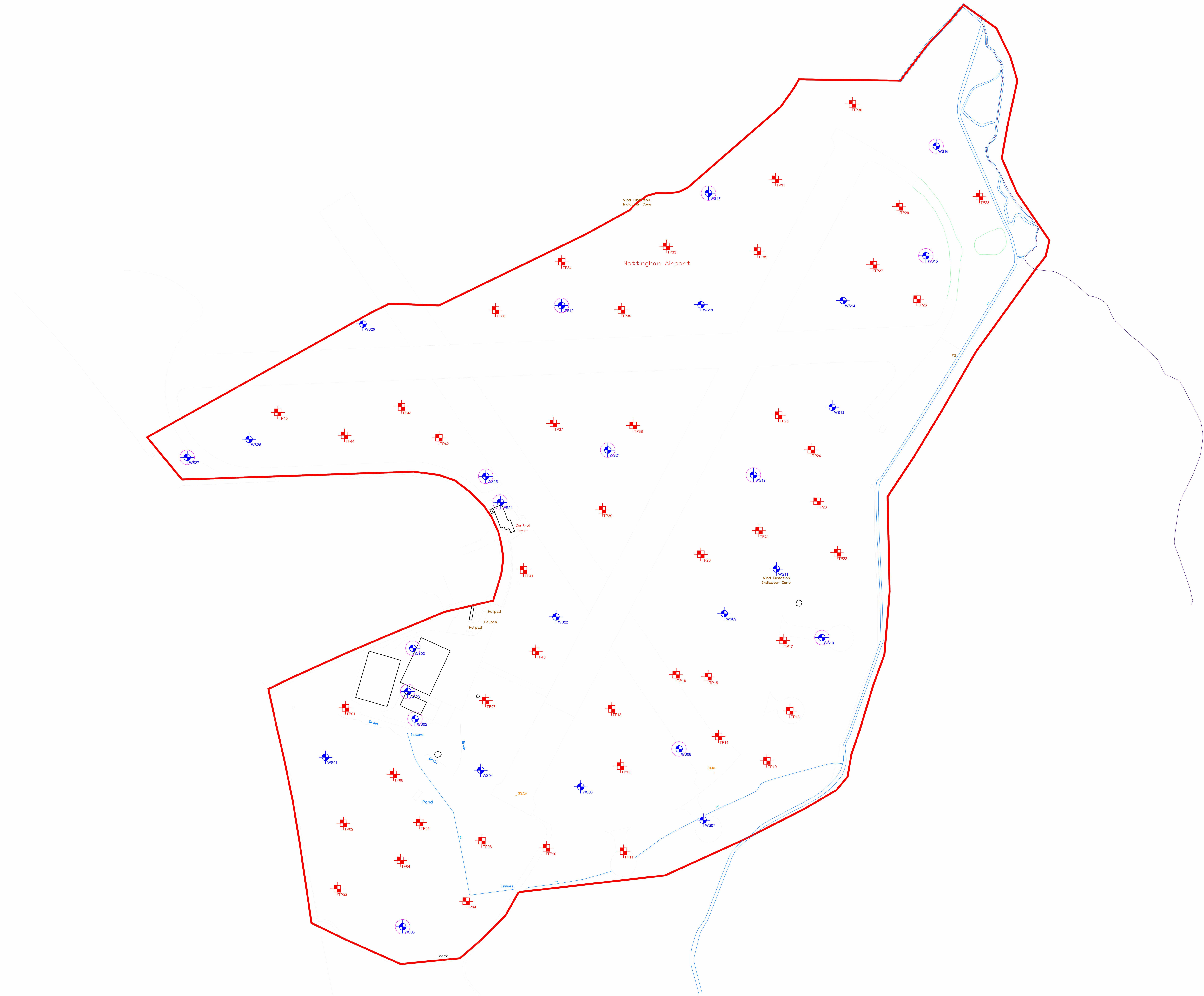


General Notes

1. Do not scale this drawing. If in doubt, ask.
2. This drawing is to be read in conjunction with all other relevant Engineers, Architects and specialist design drawings and details.
3. All dimensions are in metres unless noted otherwise. All levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the Engineer immediately.
5. Base map best fit to approximate OS reference points.

Key - Exploratory Investigation

- Approximate location and reference of Window Sample Borehole to be sunk under the supervision of PJS.
- Approximate location and reference of machine excavated Trial Pit to be dug under the supervision of PJS.
- Window Sample Borehole installed with ground gas and groundwater monitoring equipment.



A

08/02/22

Updated to show locations of exploratory holes as dug

BN

AM

Rev

Date

Amendments

By

CHK



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Registered Number: 11082455. Tel: 0115 254 5382. Email: Enquiries@pjs-geo.co.uk

Client:

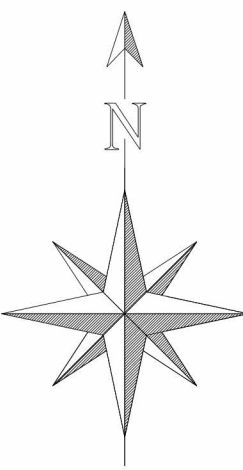
Project

Nottingham City Airport,
Tollerton

Drawing Title

Exploratory
Hole Location Plan

Drawn	Checked	Status	Scale
IN001	VH	AM	1:2000
Date	07/01/22	07/01/22	INFORMATION
Project Number	PJSG21-55	Drawing Number	DR-003
Revision			A

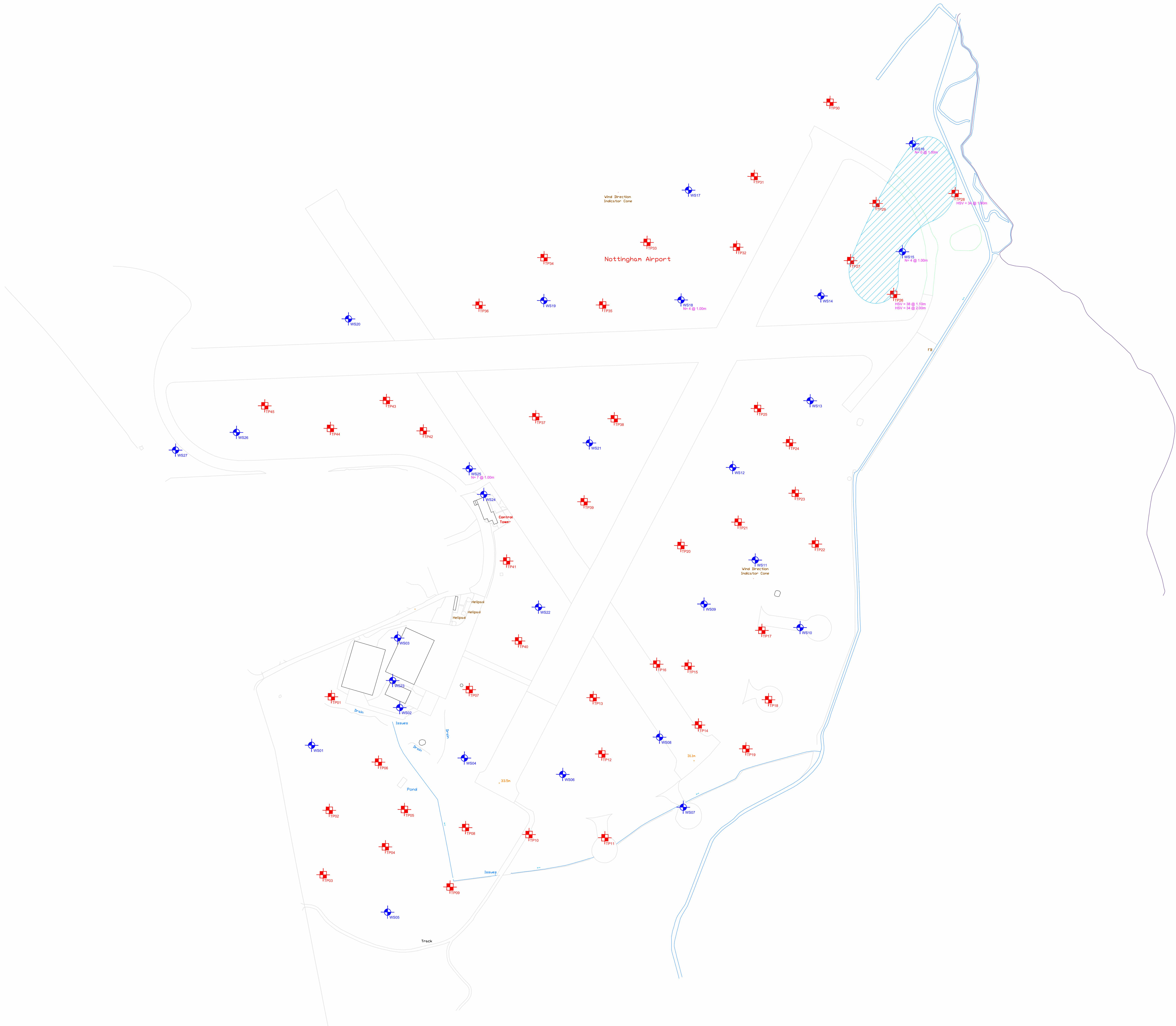


General Notes

1. Do not scale this drawing. If in doubt, ask.
2. This drawing is to be read in conjunction with all other relevant Engineers, Architects and specialist design drawings and details.
3. All dimensions are in metres unless noted otherwise. All levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the Engineer immediately.
5. Base map best fit to approximate OS reference points.

Key - Exploratory Investigation

- Approximate Extent of Lacustrine Deposits identified during intrusive investigation.
- Recorded SPT N value.
- Recorded Hand Shear Vane Cu.



Ref: Date: Amendments: By: C/A

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Registered Number: 1108248. Tel: 0115 754 5580. Email: Enquiries@pjs-geo.co.uk

Client:

Vistry Group

Project:

Nottingham City Airport,
Tollerton

Drawing Title

Drawn / Checked / Status			Scale	
Initial	NS	AD	INFORMATION 1:2000	
Date	28/03/22	28/03/22	Project Number	Revision
PJSG21-55	DR-004	-		

Appendix A: Exploratory Hole Logs





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Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP01

Sheet 1 of 1

Job Number:

PJSG21-55

Date Logged:

31/01/2022

Logged By:

BH

Checked By:

VH

Coordinates:

461682, 335840

Ground Level:

37.48

Scale:

1:25

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
1.00	B1			(0.10) / 0.10		Vegetation over brown sandy TOPSOIL.		
				(1.00)		Stiff grey mottled brown slightly sandy CLAY. [MERCIA MUDSTONE GROUP]		
1.50	D1			1.10				
				(1.80)		Firm to stiff grey mottled brown slightly silty gravelly CLAY. Gravel is rounded fine to medium of chert and siltstone. Occasional pockets of grey extremely weak siltstone. [MERCIA MUDSTONE GROUP]		
				2.90				
						Trial Pit Terminated @ 2.90m		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.90m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)

Site Name:
Nottingham City Airport, Tollerton

Client:
Vistry Group

Trial Pit ID:
TP02

Job Number:
PJSG21-55

Date Logged:
31/01/2022

Logged By:
BH

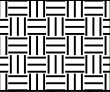
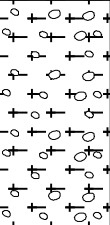
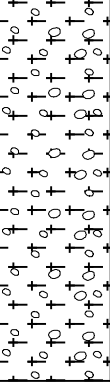
Checked By:
VH

Coordinates:
461679, 335683

Ground Level:
35.05

Scale:
1:25

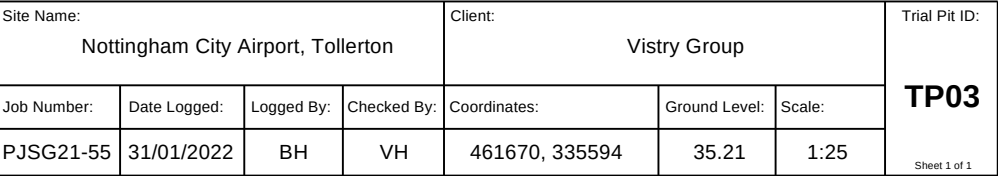
Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.10	ES1	96,88,86		0.30		Grass over dark brown slightly clayey sandy TOPSOIL.		
0.50	ES2					Stiff grey, high strength mottled reddish brown slightly gravelly silty CLAY. Gravel is sub-angular fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]		
1.20	SV			(2.30)		Becoming friable at 1.50m.		
						Trial Pit Terminated @ 2.30m		

General Remarks:
1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 2.30m.
5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:
8t 360 Excavator (Meynell Plant Hire)



General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.60m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP04

Job Number:

Date Logged:

Logged By:

Checked By:

Coordinates:

Ground Level:

Scale:

PJSG21-55

31/01/2022

BH

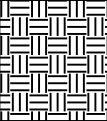
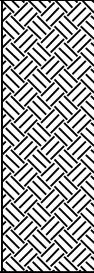
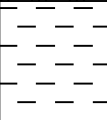
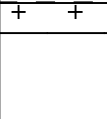
VH

461757, 335633

33.78

1:25

Sheet 1 of 1

Samples & In-Situ Testing			Strata Details							
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description			Water	Backfill
0.60 0.70 0.85	D1 / ES1 SV D2	72,88,90		(0.40)		Grass over dark brown slightly clayey gravelly sandy TOPSOIL. Gravel is rounded medium to coarse of chert.				
				0.40						
				(0.40)		Firm to stiff, medium to high strength grey CLAY. [MERCIA MUDSTONE GROUP]				
				0.80						
				(0.10) / 0.90	+ +	Extremely weak grey SILTSTONE recovered as clayey gravel. [MERCIA MUDSTONE GROUP]				
						Trial Pit Terminated @ 0.90m				

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 0.90m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP05

Sheet 1 of 1

Job Number:

Date Logged:

Logged By:

Checked By:

Coordinates:

Ground Level:

Scale:

PJSG21-55

31/01/2022

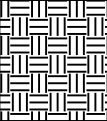
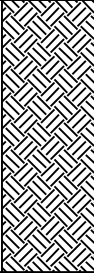
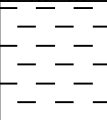
BH

VH

461783, 335684

33.60

1:25

Samples & In-Situ Testing			Strata Details						
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description		Water	Backfill
0.20	ES1	62,60,70		(0.40)		Grass over dark brown slightly clayey gravelly sandy TOPSOIL. Gravel is rounded medium to coarse of chert.			
			0.40						
0.70	SV			(0.40)		Firm, medium strength grey slightly silty CLAY. [MERCIA MUDSTONE GROUP]			
	0.85		D1		0.80				
				(0.10) / 0.90		Extremely weak grey SILTSTONE. [MERCIA MUDSTONE GROUP]			
						1.0	Trial Pit Terminated @ 0.90m		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 0.90m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)



Sheet 1 of 1

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
-------------	--



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP07

Sheet 1 of 1

Job Number:

PJSG21-55

Date Logged:

31/01/2022

Logged By:

BH

Checked By:

VH

Coordinates:

461873, 335850

Ground Level:

35.60

Scale:

1:25

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.10	ES1	98,90,110		(0.40)		Grass over brown slightly gravelly clayey sandy TOPSOIL. Gravel is rounded fine to medium of chert.		
1.20	SV			0.40				
				(2.00)		Firm to stiff, high strength grey mottled brown silty CLAY. Occasional sub-angular coarse gravel to cobbles of grey siltstone. Occasional pockets of brown slightly clayey sand. [MERCIA MUDSTONE GROUP]		
2.50	D1			2.40				
				(0.35)		Extremely weak grey SILTSTONE. [MERCIA MUDSTONE GROUP]		
				2.75				
						Trial Pit Terminated @ 2.75m		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.75m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
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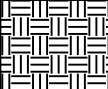
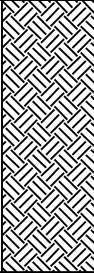
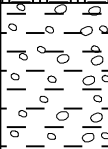
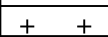


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Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group				Trial Pit ID: TP09
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:		
PJSG21-55	31/01/2022	BH	VH	461846, 335576	33.18	1:25		

Sheet 1 of 1

Samples & In-Situ Testing			Strata Details						
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description		Water	Backfill
0.20	ES1			(0.30)		Grass over dark brown slightly clayey gravelly sandy TOPSOIL. Gravel is rounded medium to coarse of chert.			
				0.30		Firm grey slightly gravelly friable CLAY. Gravel is sub- rounded of siltstone. [MERCIA MUDSTONE GROUP]			
0.85	D1			(0.50)					
				0.80					
				(0.10) / 0.90	+ +	Extremely weak to weak grey SILTSTONE recovered as clayey gravel. [MERCIA MUDSTONE GROUP]			
						1.0	Trial Pit Terminated @ 0.90m		

General Remarks:
1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 0.90m.
5) Excavation backfilled with arisings on completion.

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
-------------	--

PJS GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk			Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP10	
			Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	Sheet 1 of 1	
			PJSG21-55	31/01/2022	BH	VH	461955, 335650	31.53	1:25		
Samples & In-Situ Testing			Strata Details								
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description		Water	Backfill		
0.30	ES1			(0.10) / 0.10		MADE GROUND: Grass overlying dark brown gravelly sandy TOPSOIL. Gravel is rounded medium chert.					
				(0.50)		MADE GROUND: Dark brown sandy GRAVEL. Gravel angular fine to coarse of concrete and brick. [SUB-BASE]					
				0.60							
0.70	ES2			(1.90)		Firm, medium strength reddish brown mottled grey slightly sandy gravelly CLAY. Gravel is sub- rounded fine to coarse siltstone. [MERCIA MUDSTONE GROUP]					
1.50	D1	Becoming friable and stiff from 1.50m.									
1.80	SV	52,64,62									
2.20	SV	72,78,74									
				(0.20)		Grey friable gravelly CLAY with gravels of angular coarse to cobble siltstone. [MERCIA MUDSTONE GROUP]					
				2.70		Trial Pit Terminated @ 2.70m					
General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.70m. 5) Excavation backfilled with arisings on completion.											
Dimensions:						Plant Used: 8t 360 Excavator (Meynell Plant Hire)					

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.70m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.30m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.60m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP14
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	01/02/2022	BH	VH	462190, 335801	33.15	1:25	

PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm,
Kingston on Soar, Nottingham, NG11 0DP.
Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Sheet 1 of 1

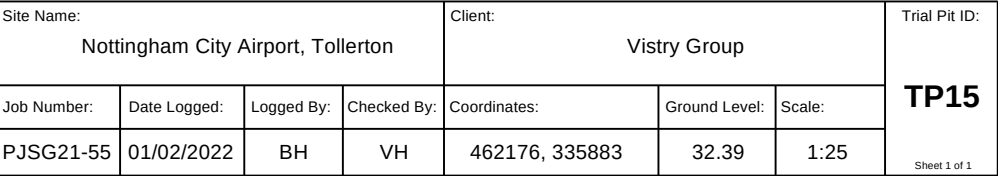
Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.20	ES1	72,68,76		(0.40)		Grass over dark brown slightly clayey sandy TOPSOIL.		
0.50	D1 / ES2			0.40		Stiff, medium strength reddish brown mottled grey CLAY with lenses of grey siltstone. [MERCIA MUDSTONE GROUP]		
0.90	SV			(1.60)		1.0 Pocket of brown very sandy clay at 1.80m.		
1.50	D2			2.00		2.0 Extremely weak grey SILTSTONE. Recovered as angular coarse gravel. [MERCIA MUDSTONE GROUP]		
				(0.50)				
				2.50				
						Trial Pit Terminated @ 2.50m		
						3.0		
						4.0		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.50m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:
8t 360 Excavator (Meynell Plant Hire)



General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.60m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group				Trial Pit ID: TP16 Sheet 1 of 1
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:		
PJSG21-55	01/02/2022	BH	VH	462132, 335886	33.51	1:25		

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.50 0.60	D1 D2			(0.30)		Grass over dark brown sandy TOPSOIL		
				0.30		Firm, medium strength slightly silty friable CLAY with occasional cobbles of angular coarse grey siltstone and lenses of reddish brown slightly sandy clay. [MERCIA MUDSTONE GROUP]		
				2.30		Land drain encountered at 0.60m.		
				2.60		Trial Pit Terminated @ 2.60m		

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.60m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP17
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	01/02/2022	BH	VH	462278, 335932	30.87	1:25	

PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm,
Kingston on Soar, Nottingham, NG11 0DP.
Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.40	ES1			(0.30)		Grass over dark brown gravelly sandy TOPSOIL. Gravel is rounded medium to coarse chert.		
				0.30		Stiff, high strength grey mottled reddish brown slightly sandy CLAY. [MERCIA MUDSTONE GROUP]		
1.00	SV	92,86,88		(2.40)		Land drain encountered at 0.60m.		
1.50	B1					Lenses of grey siltstone recovered as angular coarse gravel from 1.40m.		
				2.70				
						Trial Pit Terminated @ 2.70m		

General Remarks:
1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 2.70m.
5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:
8t 360 Excavator (Meynell Plant Hire)



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Kingston on Soar, Nottingham, NG11 0DP.
Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

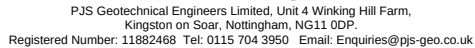
Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP18 Sheet 1 of 1
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	01/02/2022	BH	VH	462287, 335836	30.60	1:25	

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.30	ES1	76,90,80	(0.05) / 0.05	(0.15)		MADE GROUND: Grass overlying dark brown gravelly sandy TOPSOIL. Gravel is angular fine to medium of asphalt.		
			0.20	(0.20)		MADE GROUND: Bluish black sandy GRAVEL. Gravel is sub-angular medium to coarse of asphalt.		
			0.40	(0.20)		MADE GROUND: Dark brown slightly clayey gravelly sand. (Buried Topsoil)		
1.00	D1			(1.10)		Stiff, high strength reddish brown mottled grey slightly sandy CLAY. [MERCIA MUDSTONE GROUP]		
1.20	SV			1.50				
				(0.40)		Brown clayey SAND. [MERCIA MUDSTONE GROUP]		
				1.90				
				(0.70)		Grey firm mottled reddish brown slightly silty slightly sandy CLAY. [MERCIA MUDSTONE GROUP]		
				2.60		Becoming hard to dig and recovered as clayey gravelly below 2.50m.		
						Trial Pit Terminated @ 2.60m		

General Remarks:
1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 2.60m.
5) Excavation backfilled with arisings on completion.

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
-------------	--

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.50m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP20 Sheet 1 of 1
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	01/02/2022	BH	VH	462166, 336050	31.99	1:25	

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 1.60m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

General Remarks:	
1)	Excavation stable.
2)	No groundwater encountered.
3)	No evidence of contamination identified.
4)	Trial pit terminated at 2.90m.
5)	Excavation backfilled with arisings on completion.

Plant Used:
8t 360 Excavator (Meynell Plant Hire)



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP22

Sheet 1 of 1

Job Number:

Date Logged:

Logged By:

Checked By:

Coordinates:

Ground Level:

Scale:

PJSG21-55

01/02/2022

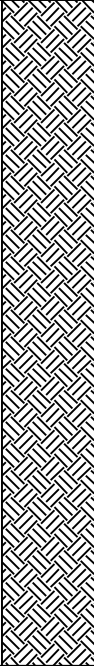
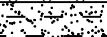
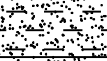
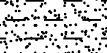
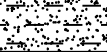
BH

VH

462352, 336052

29.03

1:25

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.15	ES1	85,110,92		(0.10) / 0.10		MADE GROUND: Grass overlying dark brown sandy TOPSOIL.		
				(0.10) / 0.20		MADE GROUND: Bluish black GRAVEL. Gravel of angular coarse asphalt.		
				(0.30)		MADE GROUND: Yellowish orange GRAVEL of sub-angular, coarse sandstone and concrete. [sub- BASE]		
0.70	ES2			0.50		Stiff grey mottled reddish brown slightly sandy CLAY. [MERCIA MUDSTONE GROUP]		
				(1.00)				
				1.50				
1.20	SV			(0.20)		Reddish brown slightly clayey SAND. [MERCIA MUDSTONE GROUP]		
2.00	D1			1.70		Stiff reddish brown slightly sandy CLAY. [MERCIA MUDSTONE GROUP]		
				(0.50)				
				2.20				
						Trial Pit Terminated @ 2.20m		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.20m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)



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Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP23 Sheet 1 of 1
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	01/02/2022	BH	VH	462324, 336122	29.46	1:25	

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.10	ES1	78,76,80		(0.20) 0.20		Grass over dark brown gravelly sandy TOPSOIL.		
				(0.40) 0.60		Brown clayey SAND. [MERCIA MUDSTONE GROUP] Concrete pipe encountered at 0.30m.		
1.00	SV			(1.70) 2.00		Stiff reddish brown mottled grey slightly gravelly slightly sandy CLAY. Gravel is sub- rounded fine to coarse of siltstone. Occasional pockets of reddish brown very sandy clay. [MERCIA MUDSTONE GROUP]		
2.00	B1			2.30		Trial Pit Terminated @ 2.30m		

General Remarks:

1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 2.30m.
5) Excavation backfilled with arisings on completion.

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
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Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group				Trial Pit ID: TP24
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:		
PJSG21-55	31/01/2022	BH	VH	462316, 336192	29.01	1:25		

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Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.40	ES1	76,70,68		(0.30)		Grass over dark brown slightly clayey gravelly sadny TOPSOIL. Gravel is sub-angular fine to medium of chert.		
0.70	SV			0.30		Firm to stiff reddish brown mottled grey slightly gravelly silty CLAY. with pockets of reddish brown very sandy clay. Gravel is sub-angular fine to medium of siltstone. [MERCIA MUDSTONE GROUP]		
				(1.80)				
				2.10				
				(0.30)		Extremely weak grey SILTSTONE with occasional pockets of reddish brown gravelly clay. [MERCIA MUDSTONE GROUP]		
				2.40				
						Trial Pit Terminated @ 2.40m		

- General Remarks:
- 1) Excavation stable.
 - 2) No groundwater encountered.
 - 3) No evidence of contamination identified.
 - 4) Trial pit terminated at 2.90m.
 - 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:
8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.70m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.80m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP27

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Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Job Number:

Date Logged:

Logged By:

Checked By:

Coordinates:

Ground Level:

Scale:

PJSG21-55

31/01/2022

BH

VH

462401, 336444

27.44

1:25

Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.20	ES1	60,68,72		(0.40)		Grass over dark brown slightly sandy clayey TOPSOIL.		
1.00	B1			(1.40)		Firm to stiff reddish brown slightly sandy CLAY. [POSSIBLE LACUSTRINE DEPOSITS]		
1.20	SV					Groundwater seepage at 1.00m. Becoming grey from 1.20m.		
2.00	SV	46,34,40		(0.40)		Firm bluish grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse of siltstone. [LACUSTRINE DEPOSITS]		
				(0.40)		Extremely weak grey friable SILTSTONE. Recovered as clayey angular coarse gravel. [MERCIA MUDSTONE GROUP]		
						Trial Pit Terminated @ 2.60m		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.60m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP28

Sheet 1 of 1

Job Number:

Date Logged:

Logged By:

Checked By:

Coordinates:

Ground Level:

Scale:

PJSG21-55

31/01/2022

BH

VH

462546, 336537

25.75

1:25

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.90	ES1			(0.30)		Vegetation over dark brown slightly sandy clayey TOPSOIL.		
				0.30				
				(0.20)		Stiff bluish grey slightly silty CLAY. [LACUSTRINE DEPOSITS]		
				0.50				
1.50	D1			(0.60)		Soft black CLAY with frequent roots/grass. [LACUSTRINE DEPOSITS] Land drain encountered at 0.70m.		
				1.10				
1.90	SV	30,38,36		(0.90)		Soft greyish blue mottled brown slightly gravelly CLAY. Gravel is angular fine to medium siltstone. [LACUSTRINE DEPOSITS]		
				2.00		Significant groundwater ingress at base.		
						Trial Pit Terminated @ 2.00m		

General Remarks:

- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.00m due to groundwater ingress.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:
8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.60m. 5) Excavation backfilled with arisings on completion.		Plant Used: 8t 360 Excavator (Meynell Plant Hire)
Dimensions:		



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Site Name:

Nottingham City Airport, Tollerton

Client:

Vistry Group

Trial Pit ID:

TP30

Job Number:

Date Logged:

Logged By:

Checked By:

Coordinates:

Ground Level:

Scale:

PJSG21-55

31/01/2022

BH

VH

462372, 336663

26.88

1:25

Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.20	ES1			(0.30)		Crop stubble over brown gravelly sandy TOPSOIL. Gravel is rounded medium to coarse of coal and chert.		
				0.30		Stiff reddish brown mottled brown slightly sandy friable CLAY. [MERCIA MUDSTONE GROUP] Land drain encountered at 0.70m.		
2.00	D1			(1.60)		1.0 Groundwater seepage at 1.80m.		
				1.90		2.0 Extremely weak grey SILTSTONE recovered as angular cobbles. [MERCIA MUDSTONE GROUP]		
				(0.10) / 2.00		3.0 Trial Pit Terminated @ 2.00m		
						4.0		

General Remarks:

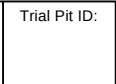
- 1) Excavation stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Trial pit terminated at 2.00m.
- 5) Excavation backfilled with arisings on completion.

Dimensions:

Plant Used:

8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 1.40m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

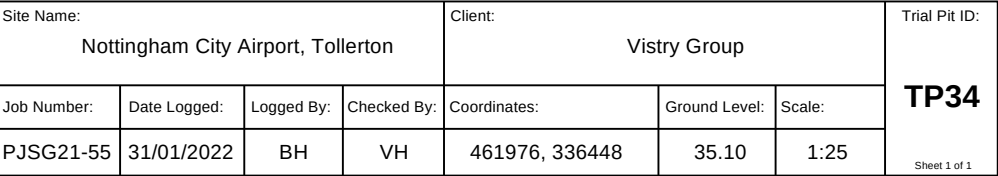


Scale:

Sheet 1 of 1

Plant Used: 8t 360 Excavator (Meynell Plant Hire)
--

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 1.70m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 1.70m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group				Trial Pit ID: TP35
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:		
PJSG21-55	31/01/2022	BH	VH	462057, 336383	32.78	1:25		

Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.10	ES1	80,92,78		(0.30)		Grass overlying brown slightly clayey sandy TOPSOIL.		
				0.30				
0.90	SV			(0.85)		Firm brown slightly sandy slightly gravelly CLAY. Gravel is sub-rounded, fine to coarse of chert. [MERCIA MUDSTONE GROUP]		
1.20	D1			1.15				
				(0.15) / 1.30		Extremely weak grey SILTSTONE. [MERCIA MUDSTONE GROUP]		
						Trial Pit Terminated @ 1.30m		

General Remarks:
1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 1.30m.
5) Excavation backfilled with arisings on completion.

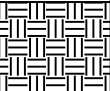
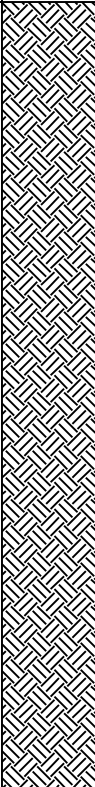
Dimensions:

Plant Used:
8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.50m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.90m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

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	Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
	PJSG21-55	31/01/2022	BH	VH	462074, 336225	31.17	1:25	

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.20	ES1	74,76,82		(0.30)		Grass over brown sandy TOPSOIL.		
0.50	D1			0.30		Firm brown slightly sandy slightly gravelly CLAY. Gravel is sub-rounded fine to coarse chert. [MERCIA MUDSTONE GROUP]		
1.00	SV			(2.30)		1.0 Becoming mottled grey from 1.90m. 2.0 Becoming friable from 2.00m.		
1.80	SV	92,76,88		2.60		Trial Pit Terminated @ 2.60m		
						3.0 4.0		

General Remarks:

- Excavation stable.
- No groundwater encountered.
- No evidence of contamination identified.
- Trial pit terminated at 2.60m.
- Excavation backfilled with arisings on completion.

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
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General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.70m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.70m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)



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Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: TP41 Sheet 1 of 1
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	31/01/2022	BH	VH	461924, 336028	36.20	1:25	

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.40	ES1			(0.50)		Grass brown clayey sandy TOPSOIL with occasional rounded medium to coarse chert.		
				0.50		Stiff reddish brown mottled grey slightly sandy CLAY with occasional grey siltstone cobbles and lenses of grey slightly gravelly slightly sandy silt. [MERCIA MUDSTONE GROUP]		
2.50	D1			(2.20)		1.0 2.0 Becoming friable from 2.00m.		
				2.70		Trial Pit Terminated @ 2.70m		
						3.0 4.0		

General Remarks:
1) Excavation stable.
2) No groundwater encountered.
3) No evidence of contamination identified.
4) Trial pit terminated at 2.70m.
5) Excavation backfilled with arisings on completion.

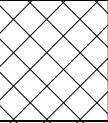
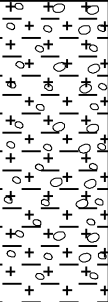
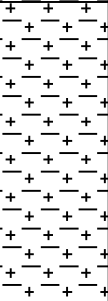
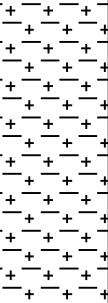
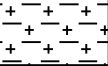
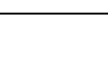
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
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General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.60m. 5) Excavation backfilled with arisings on completion.		Plant Used: 8t 360 Excavator (Meynell Plant Hire)
Dimensions:		

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 2.40m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)
-------------	--

General Remarks: 1) Excavation stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Trial pit terminated at 1.35m. 5) Excavation backfilled with arisings on completion.	
Dimensions:	Plant Used: 8t 360 Excavator (Meynell Plant Hire)

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Job Number: PJSG21-55		Date Logged: 04/02/2022		Logged By: NB		Checked By: VH		Coordinates: 461654, 335773		Ground Level: 37.05		Scale: 1:25	
Sheet 1 of 1													
Samples & In-Situ Testing			Strata Details										
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description					Water	Backfill	
0.80 1.00 1.20	ES1 SPT ES2	N = 10 (3,2/2,2,3,3)		(0.40)		MADE GROUND: Vegetation over brown clayey gravelly reworked agricultural TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.							
				0.40		MADE GROUND: Black gravelly reworked CLAY. Gravel is angular to sub-rounded, fine to coarse of brick, concrete, lignite, limestone and aggregates.							
				(0.70)		1.0							
				1.10									
2.00	SPT	N = 9 (1,2/2,2,3,2)		(0.70)		Firm grey and brown sandy gravelly CLAY. Gravel is angular to rounded, fine to medium of quartz, siltstone, sandstone and lignite. [MERCIA MUDSTONE GROUP]							
				1.80		Pocket of reddish brown sand encountered between 1.60m - 1.80m.							
				(1.00)		2.0							
				2.80									
3.00	SPT	N = 16 (3,2/3,4,4,5)		(2.20)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]							
				3.0									
				(2.20)		4.0							
				4.0									
4.00	SPT	N = 21 (5,5/5,5,6)		(5.00)		5.0							
				5.0									
				(5.00)									
				5.0									
5.00	SPT	N = 27 (3,5/10,5,6,6)	32.05	5.00		Borehole Terminated @ 5.00m							
General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 5.00m due to reaching target depth. 5) Borehole backfilled with arisings upon completion.													
Dimensions:						Plant Used: Archway DART (Dynamic Sampling Ltd)							

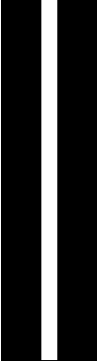
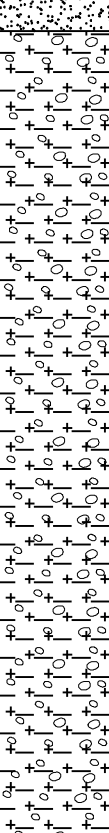
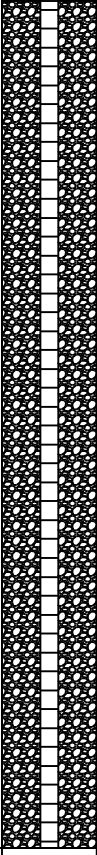
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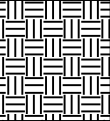
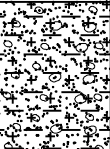
- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 4.00m due to SPT refusal.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk	Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS03
	Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
	PJSG21-55	31/01/2022	NB	VH	461773, 335922	36.90	1:25	Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.70	ES1	N = 14 (2,2/2,4,4,4)		(0.30)		MADE GROUND: Black and yellow gravel and sand. Gravel is angular, fine to coarse of asphalt, limestone and concrete.		
				0.30				
				(0.30)		Firm grey sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to coarse of siltstone and quartz. [MERCIA MUDSTONE GROUP]		
				0.60				
0.90				(0.20)		Firm reddish brown sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to coarse of siltstone and quartz. [MERCIA MUDSTONE GROUP]		
1.00	SPT			0.80				
1.00	D1							
1.15	ES2							
				(0.50)		Reddish brown SAND. [MERCIA MUDSTONE GROUP]		
				1.30		Becoming black stained with a hydrocarbon odour at 1.10m. Becoming reddish brown at 1.20m.		
1.40	ES3							
2.00	SPT	N = 12 (3,3/3,3,3,3)		(2.70)		Firm occasionally soft reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone and lignite. Becoming friable with depth. [MERCIA MUDSTONE GROUP]		
3.00	SPT	N = 18 (4,4/4,4,5,5)				Becoming stiff at 3.00m.		
4.00	SPT	N = 50 (4,4/16,23,11/30mm)	32.90	4.00		Borehole Terminated @ 4.00m		

General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) Evidence of hydrocarbon odour and black staining identified between 1.10m - 1.20m. 4) Borehole terminated at 4.00m due to SPT refusal. 5) Borehole installed with gas and groundwater monitoring ancillaries.		Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
Dimensions:		

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
1.00	SPT	N = 7 (2,2/2,1,2,2)		(0.40)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.		
1.00	D1			(0.40)		Firm brown sandy gravelly CLAY. Gravel is angular, fine to medium of lignite. [MERCIA MUDSTONE GROUP]		
				(0.70)		Soft to firm brown very sandy gravelly CLAY. Gravel is angular to rounded, fine to medium of quartz, sandstone and mudstone. [MERCIA MUDSTONE GROUP]		
				(0.50)		Firm reddish brown mottled grey silty sandy gravelly CLAY. Gravel is angular, fine of siltstone. Frequent lenses of firm grey silty friable weathered clay and weak siltstone. [MERCIA MUDSTONE GROUP]		
2.00	SPT	N = 50 (4,4/11,13,14,12/70mm)	32.24	2.00		2.0	Borehole Terminated @ 2.00m	
						3.0		
						4.0		
						5.0		

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 2.00m due to SPT refusal.
- 5) Borehole backfilled with arisings upon completion.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 1.10m due to SPT refusal. 5) Borehole installed with gas and groundwater monitoring ancillaries.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 2.00m due to SPT refusal. 5) Borehole backfilled with arisings upon completion.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

Site Name:
Nottingham City Airport, Tollerton

Client:
Vistry Group

Trial Pit ID:
WS07

Job Number:
PJSG21-55

Date Logged:
01/02/2022

Logged By:
NB

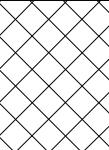
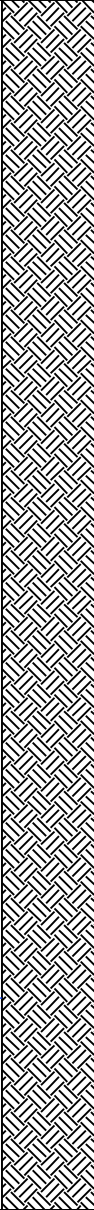
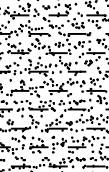
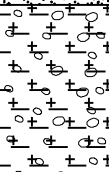
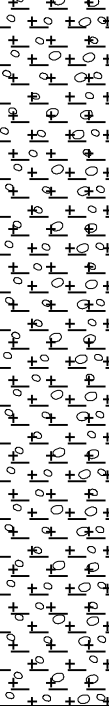
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VH

Coordinates:
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Ground Level:
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Scale:
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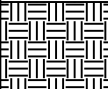
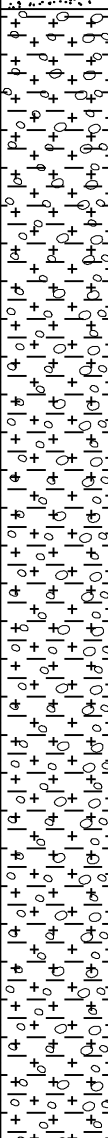
Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.20	ES1	N = 8 (2,2/2,2,2,2)		0.50		MADE GROUND: Grass over black and yellow SAND AND GRAVEL. Gravel is angular to sub-angular, fine to coarse of sandstone, limestone and granite. [SUB-BASE]		
0.70	ES2			0.60		Firm brown sandy CLAY with rare gravels of angular, fine lignite. [MERCIA MUDSTONE GROUP]		
1.00	SPT			1.10		Pocket of orange sandy gravel of angular, coarse sandstone and siltstone between 0.90m - 1.10m.		
2.00	SPT	N = 10 (2,2/2,2,3,3)		(2.90)		Firm occasionally soft reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone and lignite. Becoming friable with depth. [MERCIA MUDSTONE GROUP]		
2.50	D1							
3.00	SPT	N = 20 (3,5/5,5,5,5)						
4.00	SPT	N = 50 (6,11/12,14,14,10/60mm)	25.78	4.00		Borehole Terminated @ 4.00m		

General Remarks:
1) Borehole stable.
2) Groundwater encountered at 3.30m.
3) No evidence of contamination identified.
4) Borehole terminated at 4.00m due to SPT refusal.
5) Borehole backfilled with arisings upon completion.

Dimensions:

Plant Used:
Premier Compact 110 (Dynamic Sampling Ltd)

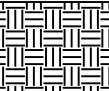
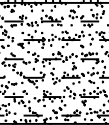
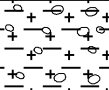
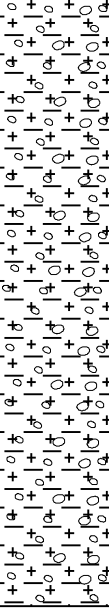
Samples & In-Situ Testing			Strata Details							
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill		
0.20	ES1	N = 9 (2,2/2,2,2,3)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.				
0.50	ES2			(0.60)					Firm occasionally soft brown sandy gravelly CLAY. Gravel is angular, fine of lignite and angular, coarse of siltstone. [MERCIA MUDSTONE GROUP]	
1.00	SPT									
1.00	D1									
2.00	SPT			N = 24 (6,6/6,6,6,6)	(3.80)				1.0	Firm occasionally soft reddish brown mottled grey silty gravelly CLAY. Gravel is angular, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]
3.00	SPT			N = 18 (6,6/4,4,4,6)					2.0	Becoming stiff at 2.00m.
		3.0	Lenses of firm grey silty friable weathered clay and weak siltstone between 2.20m - 4.20m.							
			4.0							
4.00	SPT	N = 18 (6,6/6,6,3,3)	4.70				5.0	Borehole Terminated @ 4.70m		
4.70	SPT	N = 50 (25/30mm/50/50mm)								

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 4.70m due to SPT refusal.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk	Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS09
	Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
	PJSG21-55	01/02/2022	NB	VH	462198, 335969	32.12	1:25	Sheet 1 of 1

Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.40	ES1			(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.		
				0.30				
				(0.40)		Firm brown sandy CLAY. Occasional gravel of angular, fine siltstone and lignite. [MERCIA MUDSTONE GROUP]		
1.00	SPT	N = 8 (2,2/2,2,2,2)		0.70		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]		
2.00	SPT	N = 16 (4,4/4,4,4,4)		(2.30)		1.0 Lenses of firm grey silty friable weathered clay and weak siltstone between 0.90m - 2.70m.		
						2.0 Becoming stiff at 2.00m.		
						3.0		
3.00	SPT	N = 50 (4,6/12,14,14,16/60mm)	29.12	3.00		Borehole Terminated @ 3.00m		
						4.0		
						5.0		

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 3.00m due to SPT refusal.
- 5) Borehole backfilled with arisings upon completion.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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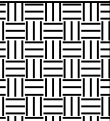
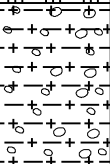
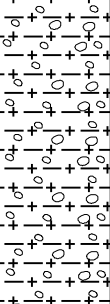
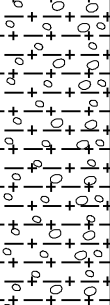
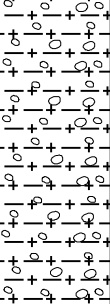


Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Sheet 1 of 1

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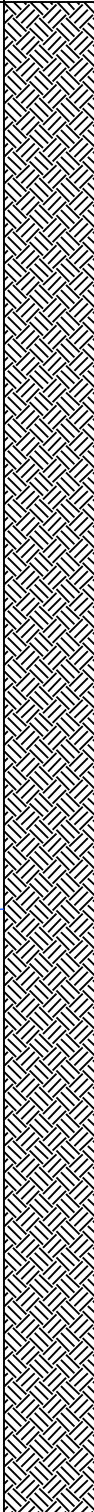
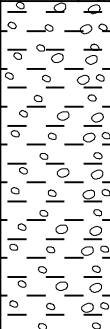
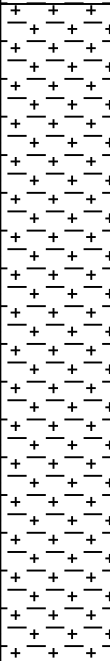
Plant Used:
Premier Compact 110 (Dynamic Sampling Ltd)

 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk			Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS11			
Job Number:		Date Logged:		Logged By:		Checked By:		Coordinates:		Ground Level:		Scale:	
PJSG21-55		01/02/2022		NB		VH		462269, 336030		30.82		1:25	
Sheet 1 of 1													
Samples & In-Situ Testing			Strata Details										
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description					Water	Backfill	
1.00	SPT	N = 22 (5,5/6,6,5,5)		0.40		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.							
				0.40		Stiff reddish brown mottled grey silty gravelly CLAY. Gravel is angular, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]							
2.00	SPT	N = 12 (4,4/3,3,3,3)		(3.60)		Becoming very gravelly between 0.70m - 0.90m.							
						Becoming very sandy between 1.30m - 1.60m.							
3.00	SPT	N = 28 (6,6/7,7,7,7)				Becoming firm at 2.00m.							
						Lenses of firm grey silty friable weathered clay and weak siltstone between 2.30m - 2.90m.							
4.00	SPT	N = 50 (7,10/13,13,13,11)	26.82	4.00		Becoming stiff at 3.00m.							
						Pocket of reddish brown clayey sand between 3.10m - 3.30m.							
						Becoming very silty at 3.70m.							
						Borehole Terminated @ 4.00m							

General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 3.00m due to SPT refusal. 5) Borehole installed with gas and groundwater monitoring ancillaries.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

General Remarks: 1) Borehole stable. 2) Groundwater encountered at 3.00m. 3) No evidence of contamination identified. 4) Borehole terminated at 4.00m due to reaching target depth. 5) Borehole backfilled with arisings upon completion.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk			Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS14	
			Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	Sheet 1 of 1	
			PJSG21-55	02/02/2022	NB	VH	462360, 336395	27.81	1:25		

Samples & In-Situ Testing			Strata Details													
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description			Water	Backfill						
1.00	SPT	N = 8 (2,2/2,2,2,2)		(0.50)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.										
				0.50												
(0.50)		Firm brown mottled orange sandy gravelly CLAY. Gravel is of angular, fine sandstone. [MERCIA MUDSTONE GROUP]														
1.50	D1			1.00		1.0										
				(0.70)		Firm occasionally soft grey mottled orange sandy CLAY. [MERCIA MUDSTONE GROUP]										
1.80	D2			1.70												
2.00	SPT	N = 10 (3,3/2,2,3,3)		(1.10)		Firm grey very gravelly CLAY. Gravel is angular, fine to coarse of siltstone. Between 1.80m - 1.90m lenses of angular, coarse siltstone gravel. [MERCIA MUDSTONE GROUP]										
				2.80		2.0										
2.90	D3			(2.20)		Firm reddish brown silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]										
3.00	SPT	N = 14 (3,3/3,3,4,4)				3.0										
4.00	SPT	N = 12 (3,3/3,3,3,3)														
						4.0										
5.00	SPT	N = 24 (5,5/6,6,6,6)	22.81	5.00		5.0										
						Borehole Terminated @ 5.00m										

General Remarks:

1) Borehole collapsed at 4.00m upon removal of sampler.

2) Groundwater encountered at 3.00m.

3) No evidence of contamination identified.

4) Borehole terminated at 5.00m due to reaching target depth.

5) Borehole backfilled with arisings upon completion.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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General Remarks: 1) Borehole stable. 2) Groundwater encountered at 2.00m. 3) No evidence of contamination identified. 4) Borehole terminated at 3.00m due to SPT refusal. 5) Borehole installed with gas and groundwater monitoring ancillaries.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

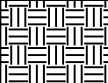
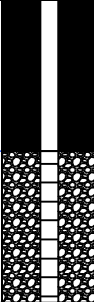
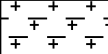
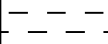


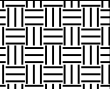
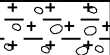
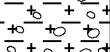
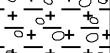
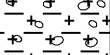
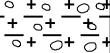
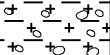
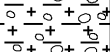
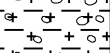
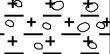
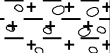
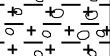
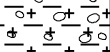
GEOTECHNICAL
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PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm,
Kingston on Soar, Nottingham, NG11 0DP.
Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk

Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS16
Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
PJSG21-55	02/02/2022	NB	VH	462487, 336606	25.88	1:25	

Sheet 1 of 1

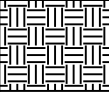
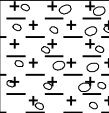
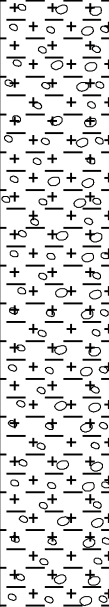
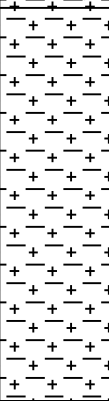
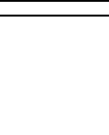
Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.40	ES1	N = 0 (0,0/0,0,0,0)	24.88	(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.		
				0.30				
				(0.20)		Firm brown mottled grey and orange silty CLAY. [LACUSTRINE DEPOSITS]		
0.50								
(0.40)				Soft black organic CLAY. Fragments of organic materials. Organic odour noted. [LACUSTRINE DEPOSITS]				
0.80	D1				0.90			
0.90	D2				(0.10) / 1.00		1.0	Very loose orangeish brown gravelly SAND. Gravel is angular, fine to coarse sandstone. [POSSIBLE LACUSTRINE DEPOSITS]
1.00	SPT							Borehole Terminated @ 1.00m

Samples & In-Situ Testing			Strata Details						
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description		Water	Backfill
1.00	SPT	N = 8 (2,2/2,2,2,2)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.			
				0.30		Firm brown sandy gravelly CLAY. Gravel is angular to rounded, fine to coarse of quartz and lignite. [MERCIA MUDSTONE GROUP]			
				(0.50)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]			
				0.80		Lense of firm grey silty friable weathered clay and weak siltstone between 1.20m - 2.80m.			
1.30	D1								
2.00	SPT	N = 10 (2,2/2,2,3,3)		(3.20)					
									
									
									
3.00	SPT	N = 22 (4,4/4,4,7,7)							
4.00	SPT	N = 50 (10,10,11,14,15,10/50mm)	26.91	4.00					
									
									
									
						Borehole Terminated @ 4.00m			

General Remarks:

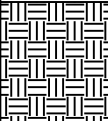
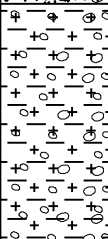
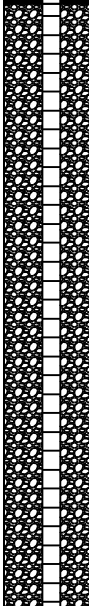
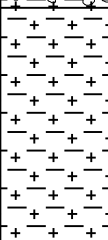
- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 4.00m due to SPT refusal.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk			Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS18			
Job Number: PJSG21-55		Date Logged: 03/02/2022		Logged By: NB		Checked By: VH		Coordinates: 462166, 336390		Ground Level: 30.57		Scale: 1:25	
Samples & In-Situ Testing			Strata Details										
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description				Water	Backfill		
0.50	ES1	N = 4 (1,1/1,1,1,1)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.							
0.90	D1			0.30		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. Rare gravels of angular, fine lignite at strata interface. [MERCIA MUDSTONE GROUP]							
1.00	SPT			(2.40)		Lense of firm grey silty friable weathered clay and weak siltstone between 0.70m - 1.90m. Pocket of soft clay at 1.00m.							
2.00	SPT	N = 16 (2,2/4,4,4,4)		2.70		Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]							
2.90	D2	(1.30)		Becoming reddish brown at 3.60m.									
3.00	SPT	N = 12 (3,3/3,3,3,3)	4.00		Borehole Terminated @ 4.00m								
3.80	D3	N = 50 (9,11/12,13,15,10)	26.57										
4.00	SPT												
General Remarks: 1) Borehole stable. 2) Groundwater encountered at 3.00m. 3) No evidence of contamination identified. 4) Borehole terminated at 4.00m due to SPT refusal. 5) Borehole backfilled with arisings upon completion.													
Dimensions:						Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)							

General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 2.00m due to SPT refusal. 5) Borehole installed with gas and groundwater monitoring ancillaries.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

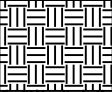
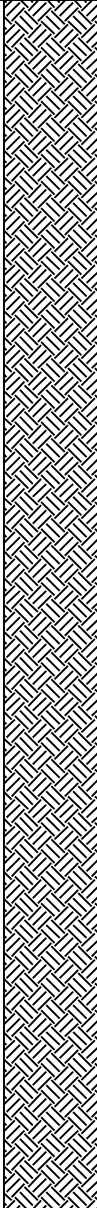
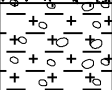
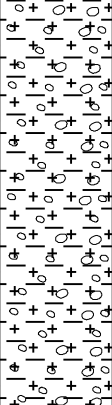
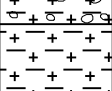
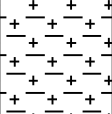
General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 3.00m due to SPT refusal. 5) Borehole backfilled with arisings upon completion.	
Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)

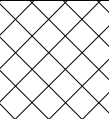
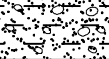
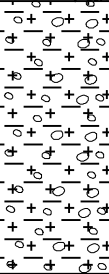
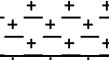
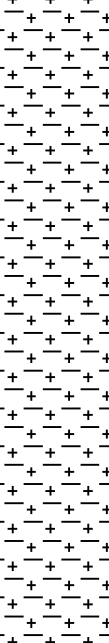
Samples & In-Situ Testing			Strata Details						
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill	
0.20	ES1	N = 8 (2,2/2,2,2,2)		(0.40)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.			
	0.40								
0.90	D1			(1.00)		1.0			Firm brown sandy gravelly CLAY. Gravel is angular, fine to medium of siltstone. [MERCIA MUDSTONE GROUP]
1.00	CPT					1.40			
2.00	SPT	N = 8 (2,2/2,2,2,2)		(0.80)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular, fine to coarse of siltstone. Frequent lenses of firm grey silty friable weathered clay and weak siltstone. [MERCIA MUDSTONE GROUP]			
						2.20			
				(0.80)		Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]			
						Becoming reddish brown at 2.70m.			
3.00	SPT	N = 50 (6,7/10,12,15,13/40mm)	28.99	3.00		3.0	Borehole Terminated @ 3.00m		
						4.0			
						5.0			

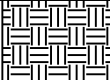
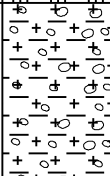
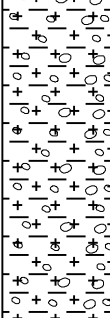
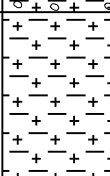
General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 3.00m due to SPT refusal.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk			Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS22			
Job Number:		Date Logged:		Logged By:		Checked By:		Coordinates:		Ground Level:		Scale:	
PJSG21-55		04/02/2022		NB		VH		461969, 335964		36.08		1:25	
Sheet 1 of 1													
Samples & In-Situ Testing			Strata Details										
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description					Water	Backfill	
1.00	SPT	N = 9 (1,1/2,2,2,3)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.							
				0.30		Firm occasionally soft brown mottled grey very sandy gravelly CLAY. Gravel is angular to rounded, fine to coarse of quartz and lignite. [MERCIA MUDSTONE GROUP]							
2.00	SPT	N = 12 (4,2/3,3,3,4)		(1.40)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]							
				1.70		Lense of firm grey silty friable weathered clay and weak siltstone between 2.20m - 3.20m.							
3.00	SPT	N = 12 (2,2/3,3,3,3)		(0.70)		Firm reddish brown silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]							
				3.40		Firm reddish brown silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]							
4.00	SPT	N = 22 (8,5/5,5,6,6)	32.08	4.00		Borehole Terminated @ 4.00m							
General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 4.00m due to reaching target depth. 5) Borehole backfilled with arisings upon completion.													
Dimensions:						Plant Used: Archway DART (Dynamic Sampling Ltd)							

 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk			Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS23			
Job Number:		Date Logged:		Logged By:		Checked By:		Coordinates:		Ground Level:		Scale:	
PJSG21-55		04/02/2022		NB		VH		461767, 335863		36.91		1:25	
Sheet 1 of 1													
Samples & In-Situ Testing			Strata Details										
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description					Water	Backfill	
0.30	ES1			(0.40)		MADE GROUND: Grass over black sandy gravelly clay. Gravel is angular, fine to coarse of brick, concrete, asphalt, aggregate and limestone.							
0.50	ES2			(0.20)		Firm dark brown sandy gravelly CLAY. Gravel is angular, fine to medium of siltstone and lignites. [MERCIA MUDSTONE GROUP]							
1.00	SPT	N = 10 (1,2/2,2,2,4)		(1.10)		Firm light brown and grey sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to coarse of chert, siltstone, sandstone and lignite. [MERCIA MUDSTONE GROUP]							
1.10	D1			1.70									
2.00	SPT	N = 12 (2,2/2,3,3,4)		(0.90)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]							
				2.60									
				(0.20)		Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]							
3.00	SPT	N = 14 (3,4/3,3,4,4)		(2.20)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]							
						Lense of firm grey silty friable weathered clay and weak siltstone between 3.30m - 4.70m.							
4.00	SPT	N = 20 (3,3/3,6,6,5)											
5.00	SPT	N = 40 (5,9/10,10,10,10)	31.91	5.00									
						Borehole Terminated @ 5.00m							
General Remarks: 1) Borehole stable. 2) No groundwater encountered. 3) No evidence of contamination identified. 4) Borehole terminated at 5.00m due to reaching target depth. 5) Borehole installed with gas and groundwater monitoring ancillaries.													
Dimensions:						Plant Used: Archway DART (Dynamic Sampling Ltd)							

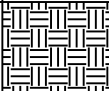
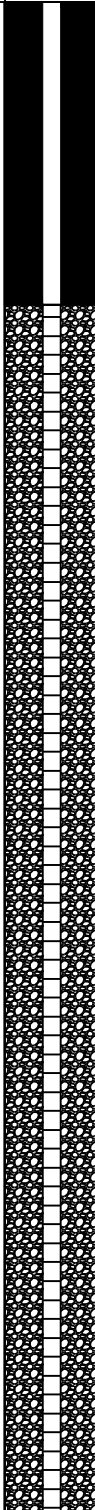
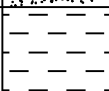
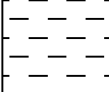
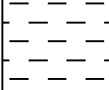
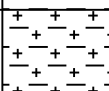
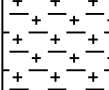
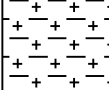
Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.20	ES1	N = 12 (2,2/3,3,3,3)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert. Rare fragment of concrete.		
0.50	ES2			0.30		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone, sandstone, lignite, quartz and chert. [MERCIA MUDSTONE GROUP]		
0.90	D1			(3.10)		At 0.80m lense of firm grey silty friable weathered clay and weak siltstone.		
1.00	SPT					Between 1.00m - 1.10m becoming very sandy. At 1.10m lense of firm grey silty friable weathered clay and weak siltstone.		
						From 1.30m becoming occasionally soft.		
2.00	SPT					Lenses of firm grey silty friable weathered clay and weak siltstone between 1.80m - 2.40m.		
3.00	SPT	N = 20 (4,3/4,5,6,5)	3.40		Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]			
4.00	SPT	N = 33 (5,5/6,7,10,10)	33.01	4.00		Borehole Terminated @ 4.00m		

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 4.00m due to reaching target depth.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Archway DART (Dynamic Sampling Ltd)
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 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk	Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS25 Sheet 1 of 1
	Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
	PJSG21-55	04/02/2022	NB	VH	461873, 336156	34.70	1:25	

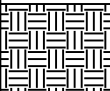
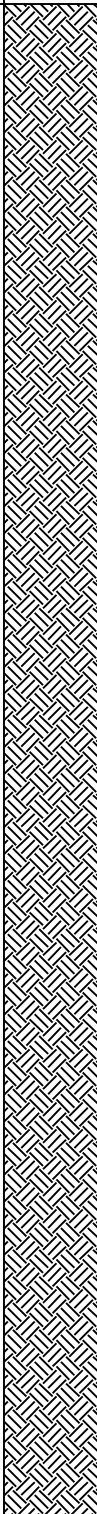
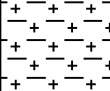
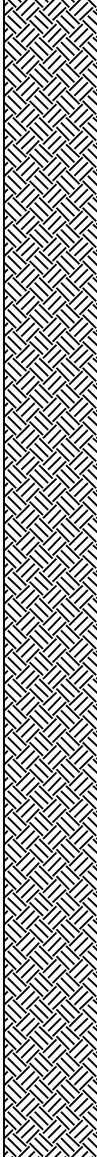
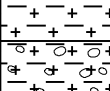
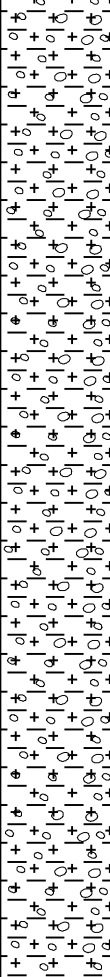
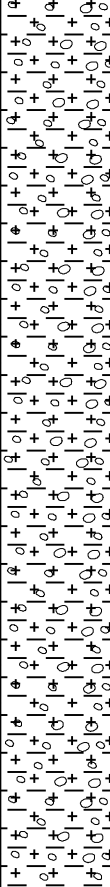
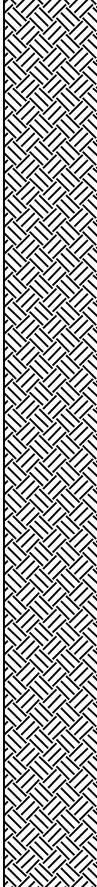
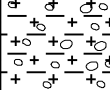
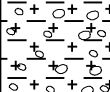
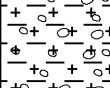
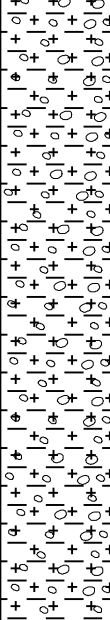
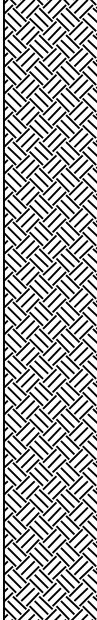
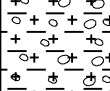
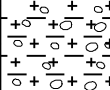
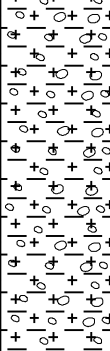
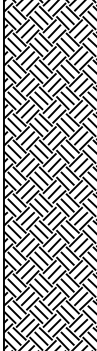
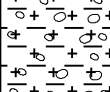
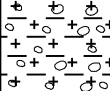
Samples & In-Situ Testing			Strata Details									
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description			Water	Backfill		
0.10	ES1	N = 7 (2,1/1,2,2,2)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.						
0.60	ES2			0.30		Firm brown sandy gravelly CLAY. Gravel is angular to rounded, fine to coarse of quartz and lignite. [MERCIA MUDSTONE GROUP]						
				(0.60)								
				0.90								
1.00	SPT			(0.90)		1.0	Soft to firm reddish brown CLAY. [MERCIA MUDSTONE GROUP]					
2.00	SPT				(3.20)		2.0	Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]				
								Becoming reddish brown at 2.50m.				
								Becoming stiff at 3.00m.				
3.00	SPT			N = 24 (5,5/5,6,6,7)	(3.20)		3.0					
4.00	SPT						N = 20 (5,5/5,5,5,5)	(3.20)				4.0
5.00	SPT	N = 26 (3,3/5,5,6,10)	29.70	5.00		5.0	Borehole Terminated @ 5.00m					

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 5.00m due to reaching target depth.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Archway DART (Dynamic Sampling Ltd)
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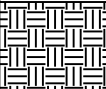
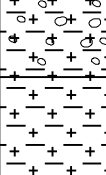
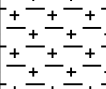
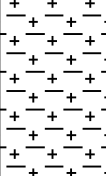
 GEOTECHNICAL ENGINEERS Delivering Innovative Solutions PJS Geotechnical Engineers Limited, Unit 4 Winking Hill Farm, Kingston on Soar, Nottingham, NG11 0DP. Registered Number: 11882468 Tel: 0115 704 3950 Email: Enquiries@pjs-geo.co.uk	Site Name: Nottingham City Airport, Tollerton				Client: Vistry Group			Trial Pit ID: WS26 Sheet 1 of 1
	Job Number:	Date Logged:	Logged By:	Checked By:	Coordinates:	Ground Level:	Scale:	
	PJSG21-55	03/02/2022	NB	VH	461550, 336206	38.39	1:25	

Samples & In-Situ Testing			Strata Details								
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description		Water	Backfill		
1.00	SPT	N = 16 (4,4/4,4,4,4)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.					
				0.30		Firm brown sandy gravelly CLAY. Gravel is angular to rounded, fine to coarse of quartz and lignite. [MERCIA MUDSTONE GROUP]					
				(0.70)							
				1.00		1.0	Firm grey silty CLAY. [MERCIA MUDSTONE GROUP]				
2.00	SPT	N = 16 (4,4/4,4,4,4)		(0.60)							
				1.60		Firm occasionally soft reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone and lignite. Becoming friable with depth. [MERCIA MUDSTONE GROUP]					
				(3.40)		Lenses of soft, sandy clay between 3.00m - 4.00m.					
				2.0							
3.00	SPT	N = 8 (2,2/2,2,2,2)		(3.40)							
						3.0					
						4.0					
						4.0					
4.00	SPT	N = 17 (2,2/4,4,4,5)		(3.40)							
						5.0					
						5.0					
						5.0					
5.00	SPT	N = 50 (6,6/10,15,15,10/40mm)	33.39	5.00							
						5.0					
						5.0					
						5.0					
						Borehole Terminated @ 5.00m					

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 5.00m due to SPT refusal.
- 5) Borehole backfilled with arisings upon completion.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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Samples & In-Situ Testing			Strata Details					
Depths	Type	Test Results	Reduced Level	Depth (Thickness)	Legend	Strata Description	Water	Backfill
0.10	ES1	N = 8 (2,2/2,2,2,2)		(0.30)		Grass over brown sandy gravelly TOPSOIL. Gravel is angular to sub-rounded, fine to medium of quartz, lignite, siltstone, sandstone, mudstone and chert.		
1.00	SPT			0.30		Firm grey sandy gravelly CLAY. Gravel is angular, medium to coarse of quartz and angular, fine of lignite. [MERCIA MUDSTONE GROUP]		
				(0.60)		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]		
				0.90		Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]		
2.00	SPT			N = 16 (4,4/4,4,4,4)	(0.20)			
3.00	SPT	N = 50 (10,10/10,14,15,10/60mm)	36.31	1.10		Firm reddish brown mottled grey silty gravelly CLAY. Gravel is angular to rounded, fine to coarse of siltstone. [MERCIA MUDSTONE GROUP]		
				(0.60)		Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]		
				(1.30)		2.0 Firm grey silty friable weathered CLAY. [MERCIA MUDSTONE GROUP]		
				1.70		Becoming reddish brown at 2.30m.		
				3.00		3.0 Borehole Terminated @ 3.00m		

General Remarks:

- 1) Borehole stable.
- 2) No groundwater encountered.
- 3) No evidence of contamination identified.
- 4) Borehole terminated at 3.00m due to SPT refusal.
- 5) Borehole installed with gas and groundwater monitoring ancillaries.

Dimensions:	Plant Used: Premier Compact 110 (Dynamic Sampling Ltd)
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Appendix B: SPT Trip Hammer Calibration Certificates





Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Dynamic sampling

Unit 8

Victory parkway

Victory rd

Derby

DE24 8ZF

Hammer Ref: 110..90

Test Date: 09/09/2021

Report Date: 09/09/2021

File Name: 110..90.spt

Test Operator: B HUNTER

Instrumented Rod Data

Diameter d_r (mm): 54

Wall Thickness t_r (mm): 6.0

Assumed Modulus E_a (GPa): 208

Accelerometer No.1: 62901

Accelerometer No.2: 62902

Hammer Information

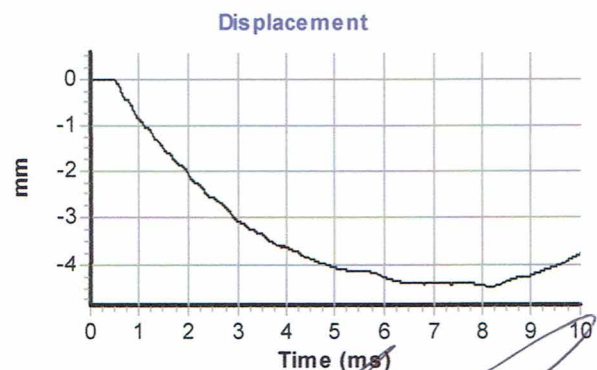
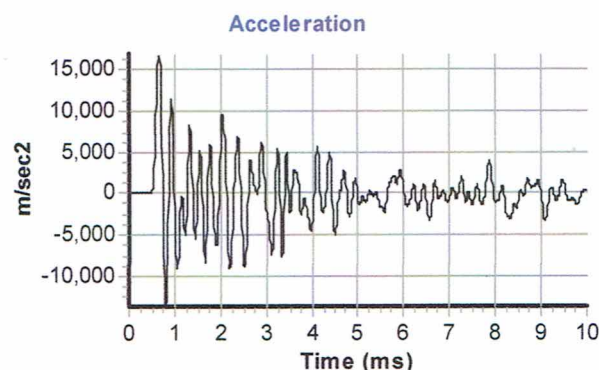
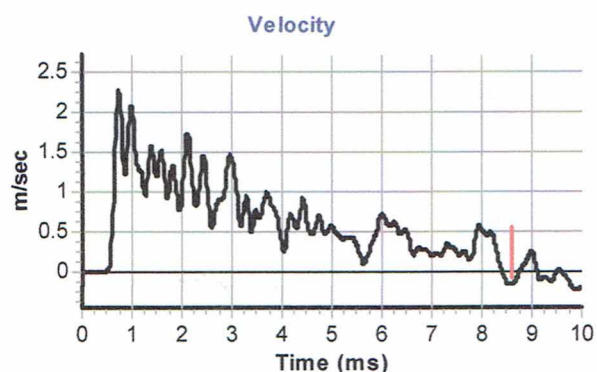
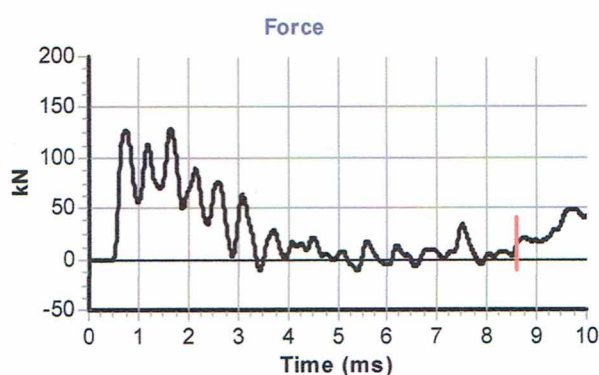
Hammer Mass m (kg): 63.5

Falling Height h (mm): 760

String Length L (m): 15.0

Comments / Location

Hammer tested at Dynamic samplings yard.



Calculations

Area of Rod A (mm^2): 905

Theoretical Energy E_{theor} (J): 473

Measured Energy E_{meas} (J): 375

Energy Ratio E_r (%): **79**

Signed: A.parker

Title: Associate director

The recommended calibration interval is 12 months



Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Dynamic sampling

Unit 8

Victory parkway

Victory rd

Derby

DE24 8ZF

Hammer Ref: 120..58

Test Date: 21/05/2021

Report Date: 21/05/2021

File Name: 120..58.spt

Test Operator: AP

Instrumented Rod Data

Diameter d_r (mm): 54

Wall Thickness t_r (mm): 6.5

Assumed Modulus E_a (GPa): 208

Accelerometer No.1: 62901

Accelerometer No.2: 62902

Hammer Information

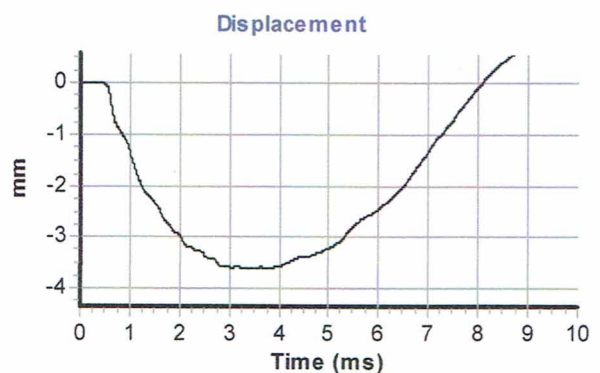
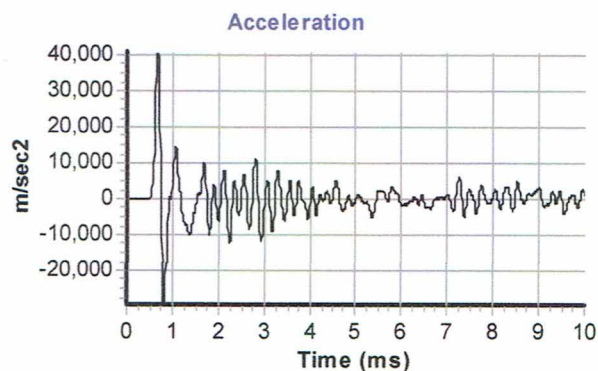
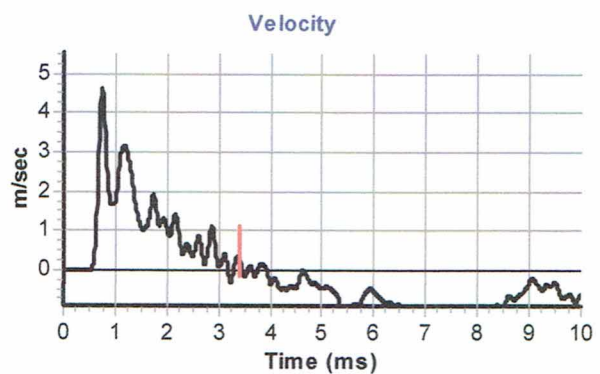
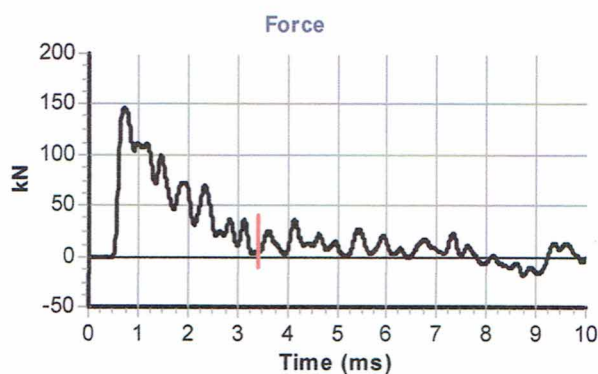
Hammer Mass m (kg): 63.5

Falling Height h (mm): 760

String Length L (m): 15.0

Comments / Location

Hammer tested at Dynamic samplings yard.



Calculations

Area of Rod A (mm^2): 970

Theoretical Energy E_{theor} (J): 473

Measured Energy E_{meas} (J): 331

Energy Ratio E_r (%): **70**

Signed: A.parker

Title: Associate Director

The recommended calibration interval is 12 months

Appendix C: Chemical Testing Results



Anthony Owen
Exploration & Testing Associates Limited
3 Siskin Drive
Middlemarch Business Park
Coventry
CV3 4FJ

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: results@explorationtesting.uk

Analytical Report Number : 22-37610

Project / Site name:	NottinghamCity Airport ,PJS21-55	Samples received on:	03/02/2022
Your job number:	C10232	Samples instructed on / Analysis started on:	04/02/2022
Your order number:	PO-1975	Analysis completed by:	18/02/2022
Report Issue Number:	1	Report issued on:	18/02/2022
Samples Analysed:	5 leachate samples - 31 soil samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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.

Analytical Report Number: 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55
Your Order No: PO-1975

Lab Sample Number	2162016	2162017	2162018	2162019	2162020
Sample Reference	TP39	WS21	TP07	TP07	TP03
Sample Number	1	1	1	1	1
Depth (m)	0.40	0.20	0.10	2.50	0.10
Date Sampled	31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	9.5
Total mass of sample received	kg	0.001	NONE	2.0	2.0

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.8	7.0	6.8	7.3	7.4
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	0.017	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.042	0.0078	0.0095	0.026	0.0051
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	25.6	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	6.0	-
Total Sulphur	%	0.005	MCERTS	-	-	-	0.010	-
Organic Matter (automated)	%	0.1	MCERTS	0.8	3.4	2.5	-	3.9
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	< 2.0	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	-	0.44
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.45	-	0.87
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.40	-	0.77
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.24	-	0.57
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.25	-	0.47
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.20	-	0.45
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.16	-	0.32
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.22	-	0.52
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	0.33
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	0.35

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	2.18	-	5.09
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Analytical Report Number: 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55
Your Order No: PO-1975

Lab Sample Number	2162016	2162017	2162018	2162019	2162020
Sample Reference	TP39	WS21	TP07	TP07	TP03
Sample Number	1	1	1	1	1
Depth (m)	0.40	0.20	0.10	2.50	0.10
Date Sampled	31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.7	7.0	5.8	-	6.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	-	0.6
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	17	18	-	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.8	23	15	-	45
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.0	47	26	-	46
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	16	14	-	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	40	65	62	-	110

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	41	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	21	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

Analytical Report Number: 22-37610
 Project / Site name: NottinghamCity Airport ,PJS21-55
 Your Order No: PO-1975

Lab Sample Number	2162016	2162017	2162018	2162019	2162020
Sample Reference	TP39	WS21	TP07	TP07	TP03
Sample Number	1	1	1	1	1
Depth (m)	0.40	0.20	0.10	2.50	0.10
Date Sampled	31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-
Benzene	µg/kg	1	MCERTS	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-
Toluene	µg/kg	1	MCERTS	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-
Styrene	µg/kg	1	MCERTS	-	-
Tribromomethane	µg/kg	1	NONE	-	-
o-Xylene	µg/kg	1	MCERTS	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-

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Lab Sample Number				2162016	2162017	2162018	2162019	2162020
Sample Reference				TP39	WS21	TP07	TP07	TP03
Sample Number				1	1	1	1	1
Depth (m)				0.40	0.20	0.10	2.50	0.10
Date Sampled				31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Miscellaneous Organics								
Coal Tar			N/A	NONE	-	-	-	-
Total Residue	mg/kg	10	NONE	-	-	-	-	-
Environmental Forensics								
PFOS	µg/kg	0.1	NONE	-	-	-	-	-
PFOA	µg/kg	0.1	NONE	-	-	-	-	-

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

Analytical Report Number: 22-37610
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Lab Sample Number	2162021	2162022	2162023	2162024	2162025
Sample Reference	TP06	WS02	WS03	WS03	WS03
Sample Number	2	1	2	3	1
Depth (m)	0.40	0.30	1.15	1.40	1.00
Date Sampled	31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	11
Total mass of sample received	kg	0.001	NONE	1.6	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	8.0	10.4	7.8	8.6
Total Sulphate as SO4	%	0.005	MCERTS	-	-	-	-	0.009
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.037	0.020	0.017	0.011	0.0077
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	7.7
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	6.2
Total Sulphur	%	0.005	MCERTS	-	-	-	-	< 0.005
Organic Matter (automated)	%	0.1	MCERTS	2.8	5.6	2.9	0.4	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	< 2.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.26	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.48	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	1.1	0.49	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.86	0.50	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	0.86	9.3	2.7	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	0.25	1.7	0.98	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	1.8	15	3.1	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	1.6	12	2.8	< 0.05	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.1	7.9	1.5	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	0.88	6.3	1.1	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.94	7.9	1.2	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.27	2.1	0.39	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.86	6.6	0.98	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.52	4.3	0.74	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.0	< 0.05	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.56	4.8	0.83	< 0.05	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	9.62	81.6	17.3	< 0.80	-
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Lab Sample Number				2162021	2162022	2162023	2162024	2162025
Sample Reference				TP06	WS02	WS03	WS03	WS03
Sample Number				2	1	2	3	1
Depth (m)				0.40	0.30	1.15	1.40	1.00
Date Sampled				31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.2	9.9	4.0	6.2	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.8	2.3	< 0.2	< 0.2	-
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	36	450	42	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	38	110	22	14	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	29	130	20	5.7	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	21	25	34	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	77	240	45	53	-

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	8.6
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	4.3

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	21	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	20	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	18	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	45	190	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	50	250	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	12	8.5	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	47	25	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	190	380	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	250	420	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-

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Lab Sample Number				2162021	2162022	2162023	2162024	2162025
Sample Reference				TP06	WS02	WS03	WS03	WS03
Sample Number				2	1	2	3	1
Depth (m)				0.40	0.30	1.15	1.40	1.00
Date Sampled				31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-

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Lab Sample Number				2162021	2162022	2162023	2162024	2162025
Sample Reference				TP06	WS02	WS03	WS03	WS03
Sample Number				2	1	2	3	1
Depth (m)				0.40	0.30	1.15	1.40	1.00
Date Sampled				31/01/2022	31/01/2022	31/01/2022	31/01/2022	31/01/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Miscellaneous Organics								
Coal Tar		N/A	NONE	-	-	-	-	-
Total Residue	mg/kg	10	NONE	-	-	-	-	-
Environmental Forensics								
PFOS	µg/kg	0.1	NONE	-	-	-	-	-
PFOA	µg/kg	0.1	NONE	-	-	-	-	-

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

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Lab Sample Number	2162026	2162027	2162028	2162029	2162030
Sample Reference	TP12	TP12	WS8	WS8	WS8
Sample Number	1	2	1	2	1
Depth (m)	1.00	1.50	0.20	0.50	1.00
Date Sampled	01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	13
Total mass of sample received	kg	0.001	NONE	1.6	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.7	8.0	6.5	-	7.7
Total Sulphate as SO ₄	%	0.005	MCERTS	-	0.016	-	-	0.021
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0093	0.011	0.014	-	0.029
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	11.3	-	-	29.4
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	9.6	-	-	1.1
Total Sulphur	%	0.005	MCERTS	-	0.008	-	-	0.011
Organic Matter (automated)	%	0.1	MCERTS	3.6	-	2.5	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	< 2.0	-	-	< 2.0

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	-	0.57	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	0.42	-	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-	6.5	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	1.2	-	-
Fluoranthene	mg/kg	0.05	MCERTS	0.43	-	12	-	-
Pyrene	mg/kg	0.05	MCERTS	0.40	-	11	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.24	-	6.2	-	-
Chrysene	mg/kg	0.05	MCERTS	0.21	-	4.7	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	4.6	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	2.1	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	3.3	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	2.4	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	0.78	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	2.4	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1.28	-	57.8	-	-
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Analytical Report Number: 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55
Your Order No: PO-1975

Lab Sample Number				2162026	2162027	2162028	2162029	2162030
Sample Reference				TP12	TP12	WS8	WS8	WS8
Sample Number				1	2	1	2	1
Depth (m)				1.00	1.50	0.20	0.50	1.00
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.7	-	6.7	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	-
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	-	< 4.0	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	-	17	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	-	19	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	29	-	28	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	10	-	13	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	59	-	54	-	-
Magnesium (water soluble)	mg/kg	5	NONE	-	< 5.0	-	-	27
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	< 2.5	-	-	13

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

Analytical Report Number: 22-37610
 Project / Site name: NottinghamCity Airport ,PJS21-55
 Your Order No: PO-1975

Lab Sample Number				2162026	2162027	2162028	2162029	2162030
Sample Reference				TP12	TP12	WS8	WS8	WS8
Sample Number				1	2	1	2	1
Depth (m)				1.00	1.50	0.20	0.50	1.00
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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 Project / Site name: NottinghamCity Airport ,PJS21-55
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Lab Sample Number	2162026			2162027			2162028			2162029			2162030		
Sample Reference	TP12			TP12			WS8			WS8			WS8		
Sample Number	1			2			1			2			1		
Depth (m)	1.00			1.50			0.20			0.50			1.00		
Date Sampled	01/02/2022			01/02/2022			01/02/2022			01/02/2022			01/02/2022		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Soil Analysis)															
Miscellaneous Organics															
Coal Tar		N/A	NONE	-	-	-	-	-	-	-	-	-	-	-	-
Total Residue	mg/kg	10	NONE	-	-	-	-	-	-	-	-	-	-	-	-
Environmental Forensics															
PFOS	µg/kg	0.1	NONE	-	-	-	0.7	< 0.1	-	-	-	-	-	-	-
PFOA	µg/kg	0.1	NONE	-	-	-	0.2	< 0.1	-	-	-	-	-	-	-

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

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 Project / Site name: NottinghamCity Airport ,PJS21-55
 Your Order No: PO-1975

Lab Sample Number				2162031	2162032	2162033	2162034	2162035
Sample Reference				WS7	WS10	TP14	TP14	TP18
Sample Number				1	1	1	2	1
Depth (m)				0.20	0.20	0.20	0.50	0.30
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Stone Content	%	0.1	NONE	42	97	< 0.1	< 0.1	51
Moisture Content	%	0.01	NONE	9.5	11	12	12	7.7
Total mass of sample received	kg	0.001	NONE	1.6	0.50	1.6	1.6	1.6

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	8.6	7.1	-	8.0
Total Sulphate as SO4	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.029	0.019	0.014	-	0.022
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	4.6	1.5	9.2	-	1.6
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	4.2	< 0.05	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	1.8	0.78	1.7	-	0.33
Acenaphthene	mg/kg	0.05	MCERTS	31	14	7.9	-	3.8
Fluorene	mg/kg	0.05	MCERTS	39	19	6.1	-	4.2
Phenanthrene	mg/kg	0.05	MCERTS	300	140	93	-	29
Anthracene	mg/kg	0.05	MCERTS	88	39	12	-	8.6
Fluoranthene	mg/kg	0.05	MCERTS	260	110	150	-	35
Pyrene	mg/kg	0.05	MCERTS	220	91	130	-	29
Benzo(a)anthracene	mg/kg	0.05	MCERTS	120	54	81	-	19
Chrysene	mg/kg	0.05	MCERTS	88	37	65	-	11
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	73	26	48	-	13
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	32	19	39	-	3.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	59	26	46	-	9.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	42	19	32	-	6.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	11	5.3	9.2	-	1.7
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	41	18	30	-	6.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1410	621	756	-	180
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Project / Site name: NottinghamCity Airport ,PJS21-55
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Lab Sample Number				2162031	2162032	2162033	2162034	2162035
Sample Reference				WS7	WS10	TP14	TP14	TP18
Sample Number				1	1	1	2	1
Depth (m)				0.20	0.20	0.20	0.50	0.30
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	11	7.4	-	6.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	33	16	-	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40	12	17	-	49
Lead (aqua regia extractable)	mg/kg	1	MCERTS	27	14	33	-	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	22	14	-	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	65	95	110	-	79

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

Analytical Report Number: 22-37610
 Project / Site name: NottinghamCity Airport ,PJS21-55
 Your Order No: PO-1975

Lab Sample Number				2162031	2162032	2162033	2162034	2162035
Sample Reference				WS7	WS10	TP14	TP14	TP18
Sample Number				1	1	1	2	1
Depth (m)				0.20	0.20	0.20	0.50	0.30
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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Lab Sample Number	2162031			2162032			2162033			2162034			2162035		
Sample Reference	WS7			WS10			TP14			TP14			TP18		
Sample Number	1			1			1			2			1		
Depth (m)	0.20			0.20			0.20			0.50			0.30		
Date Sampled	01/02/2022			01/02/2022			01/02/2022			01/02/2022			01/02/2022		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Soil Analysis)															
Miscellaneous Organics															
Coal Tar		N/A	NONE	Not Identified	Not Identified	-	-	-	-	-	-	-	-	-	-
Total Residue	mg/kg	10	NONE	4500	1700	-	-	-	-	-	-	-	-	-	-

Environmental Forensics

PFOS	µg/kg	0.1	NONE	-	-	6.7	0.6	-
PFOA	µg/kg	0.1	NONE	-	-	1.7	0.1	-

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

Analytical Report Number: 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55
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Lab Sample Number				2162036	2162037	2162038	2162039	2162040
Sample Reference				TP18	TP19	TP23	TP22	TP20
Sample Number				1	1	1	1	1
Depth (m)				1.00	0.30	0.10	0.15	0.20
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	11	10	0.25	12
Total mass of sample received	kg	0.001	NONE	1.5	1.6	1.6	1.6	1.6

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	7.0	7.2	-	7.9
Total Sulphate as SO ₄	%	0.005	MCERTS	0.018	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.0095	0.018	-	0.0090
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	27.0	-	-	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	3.2	-	-	-	-
Total Sulphur	%	0.005	MCERTS	0.009	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	-	2.6	2.9	-	3.4
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	-	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	100	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	12	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	0.24	440	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	0.23	480	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.48	2.0	2400	0.57
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.31	630	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	0.96	2.7	1600	0.89
Pyrene	mg/kg	0.05	MCERTS	-	0.89	2.5	1300	0.75
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.51	1.2	630	0.45
Chrysene	mg/kg	0.05	MCERTS	-	0.42	1.1	490	0.39
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.43	1.0	300	0.35
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.21	0.43	230	0.26
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.35	0.80	310	0.38
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.28	0.63	190	0.24
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	55	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.34	0.65	180	0.27

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	4.87	13.7	9320	4.55
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Lab Sample Number				2162036	2162037	2162038	2162039	2162040
Sample Reference				TP18	TP19	TP23	TP22	TP20
Sample Number				1	1	1	1	1
Depth (m)				1.00	0.30	0.10	0.15	0.20
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	5.7	8.1	-	7.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	-	< 4.0	< 4.0	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	24	21	-	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	26	26	-	32
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	33	41	-	57
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	0.6	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	16	18	-	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	79	65	-	79

Magnesium (water soluble)	mg/kg	5	NONE	11	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	5.5	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

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 Project / Site name: NottinghamCity Airport ,PJS21-55
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Lab Sample Number				2162036	2162037	2162038	2162039	2162040
Sample Reference				TP18	TP19	TP23	TP22	TP20
Sample Number				1	1	1	1	1
Depth (m)				1.00	0.30	0.10	0.15	0.20
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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Lab Sample Number				2162036	2162037	2162038	2162039	2162040
Sample Reference				TP18	TP19	TP23	TP22	TP20
Sample Number				1	1	1	1	1
Depth (m)				1.00	0.30	0.10	0.15	0.20
Date Sampled				01/02/2022	01/02/2022	01/02/2022	01/02/2022	01/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Miscellaneous Organics								
Coal Tar		N/A	NONE	-	-	-	Not Identified	-
Total Residue	mg/kg	10	NONE	-	-	-	18000	-

Environmental Forensics

PFOS	µg/kg	0.1	NONE	-	-	-	-	-
PFOA	µg/kg	0.1	NONE	-	-	-	-	-

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

Analytical Report Number: 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55
Your Order No: PO-1975

Lab Sample Number	2162041	2162042	2162043	2162044	2162045
Sample Reference	TP26	TP27	WS16	TP29	TP24
Sample Number	2	1	1	1	1
Depth (m)	1.20	0.20	0.40	2.00	0.40
Date Sampled	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	52	10
Total mass of sample received	kg	0.001	NONE	1.5	1.6

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.0	6.5	7.2	7.2	7.8
Total Sulphate as SO ₄	%	0.005	MCERTS	0.505	-	-	1.38	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.3	0.42	0.67	1.7	0.026
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	1280	-	-	1730	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	28	-	-	2.8	-
Total Sulphur	%	0.005	MCERTS	0.373	-	-	0.619	-
Organic Matter (automated)	%	0.1	MCERTS	-	4.0	4.6	-	0.8
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	-	-	< 2.0	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.56	0.39	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	0.91	0.81	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	0.84	0.78	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.57	0.67	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	0.49	0.59	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.44	0.72	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.31	0.56	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.48	0.71	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.31	0.45	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.36	0.48	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	5.27	6.16	-	< 0.80
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Project / Site name: NottinghamCity Airport ,PJS21-55
Your Order No: PO-1975

Lab Sample Number				2162041	2162042	2162043	2162044	2162045
Sample Reference				TP26	TP27	WS16	TP29	TP24
Sample Number				2	1	1	1	1
Depth (m)				1.20	0.20	0.40	2.00	0.40
Date Sampled				02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	9.0	22	-	4.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	0.4	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	-	< 4.0	< 4.0	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	21	60	-	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	45	44	-	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	68	35	-	6.2
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	0.6	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	24	38	-	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	100	87	-	46

Magnesium (water soluble)	mg/kg	5	NONE	120	-	-	100	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	60	-	-	50	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2162041	2162042	2162043	2162044	2162045
Sample Reference				TP26	TP27	WS16	TP29	TP24
Sample Number				2	1	1	1	1
Depth (m)				1.20	0.20	0.40	2.00	0.40
Date Sampled				02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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Lab Sample Number				2162041	2162042	2162043	2162044	2162045
Sample Reference				TP26	TP27	WS16	TP29	TP24
Sample Number				2	1	1	1	1
Depth (m)				1.20	0.20	0.40	2.00	0.40
Date Sampled				02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Miscellaneous Organics								
Coal Tar		N/A	NONE	-	-	-	-	-
Total Residue	mg/kg	10	NONE	-	-	-	-	-
Environmental Forensics								
PFOS	µg/kg	0.1	NONE	-	-	-	-	-
PFOA	µg/kg	0.1	NONE	-	-	-	-	-

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

Analytical Report Number: 22-37610
 Project / Site name: NottinghamCity Airport ,PJS21-55
 Your Order No: PO-1975

Lab Sample Number	2162046			
Sample Reference	TP31			
Sample Number	1			
Depth (m)	0.20			
Date Sampled	02/02/2022			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)				
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.001	NONE	1.6

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.0
Total Sulphate as SO ₄	%	0.005	MCERTS	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0090
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-
Total Sulphur	%	0.005	MCERTS	-
Organic Matter (automated)	%	0.1	MCERTS	2.3
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-

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	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
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	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
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	< 0.80
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Lab Sample Number	2162046
Sample Reference	TP31
Sample Number	1
Depth (m)	0.20
Date Sampled	02/02/2022
Time Taken	None Supplied

Analytical Parameter (Soil Analysis)				
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Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23
Lead (aqua regia extractable)	mg/kg	1	MCERTS	35
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
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58

Magnesium (water soluble)	mg/kg	5	NONE	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-
Toluene	µg/kg	1	MCERTS	-
Ethylbenzene	µg/kg	1	MCERTS	-
p & m-xylene	µg/kg	1	MCERTS	-
o-xylene	µg/kg	1	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	-

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	MCERTS	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-
Chloroethane	µg/kg	1	NONE	-
Bromomethane	µg/kg	1	ISO 17025	-
Vinyl Chloride	µg/kg	1	NONE	-
Trichlorofluoromethane	µg/kg	1	NONE	-
1,1-Dichloroethene	µg/kg	1	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-

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Lab Sample Number	2162046			
Sample Reference	TP31			
Sample Number	1			
Depth (m)	0.20			
Date Sampled	02/02/2022			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)				
2,2-Dichloropropane	µg/kg	1	MCERTS	-
Trichloromethane	µg/kg	1	MCERTS	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-
Benzene	µg/kg	1	MCERTS	-
Tetrachloromethane	µg/kg	1	MCERTS	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-
Trichloroethene	µg/kg	1	MCERTS	-
Dibromomethane	µg/kg	1	MCERTS	-
Bromodichloromethane	µg/kg	1	MCERTS	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-
Toluene	µg/kg	1	MCERTS	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-
Dibromochloromethane	µg/kg	1	ISO 17025	-
Tetrachloroethene	µg/kg	1	NONE	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-
Chlorobenzene	µg/kg	1	MCERTS	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-
Ethylbenzene	µg/kg	1	MCERTS	-
p & m-Xylene	µg/kg	1	MCERTS	-
Styrene	µg/kg	1	MCERTS	-
Tribromomethane	µg/kg	1	NONE	-
o-Xylene	µg/kg	1	MCERTS	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-
Isopropylbenzene	µg/kg	1	MCERTS	-
Bromobenzene	µg/kg	1	MCERTS	-
n-Propylbenzene	µg/kg	1	ISO 17025	-
2-Chlorotoluene	µg/kg	1	MCERTS	-
4-Chlorotoluene	µg/kg	1	MCERTS	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-
tert-Butylbenzene	µg/kg	1	MCERTS	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-
sec-Butylbenzene	µg/kg	1	MCERTS	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-
Butylbenzene	µg/kg	1	MCERTS	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-

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Lab Sample Number	2162046			
Sample Reference	TP31			
Sample Number	1			
Depth (m)	0.20			
Date Sampled	02/02/2022			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)				
Miscellaneous Organics				
Coal Tar		N/A	NONE	-
Total Residue	mg/kg	10	NONE	-

Environmental Forensics				
PFOS	µg/kg	0.1	NONE	-
PFOA	µg/kg	0.1	NONE	-

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



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Project / Site name: NottinghamCity Airport ,PJS21-55

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Lab Sample Number	2162047	2162048	2162049	2162050	2162807
Sample Reference	WS02	WS10	TP28	TP24	TP38
Sample Number	1	2	1	1	1
Depth (m)	0.30	0.60	0.90	0.40	0.30
Date Sampled	31/01/2022	01/02/2022	02/02/2022	02/02/2022	31/01/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)					

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	3.0	< 1.0	9.2	2.0	1.8
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.47	0.25	< 0.08	0.25	0.23
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.4	2.3	0.7	1.5	2.0
Copper (dissolved)	µg/l	0.7	ISO 17025	32	10	9.7	8.2	12
Lead (dissolved)	µg/l	1	ISO 17025	10	6.8	3.9	3.3	5.4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	5.7	3.7	4.2	3.8	7.1
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	8.4	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	39	16	27	6.2	7.5

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

Analytical Report Number : 22-37610

Project / Site name: NottinghamCity Airport ,PJS21-55

* 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 *
2162016	TP39	1	0.4	Brown clay with vegetation.
2162017	WS21	1	0.2	Brown loam and clay with vegetation.
2162018	TP07	1	0.1	Brown loam and clay with vegetation.
2162019	TP07	1	2.5	Brown clay.
2162020	TP03	1	0.1	Brown clay and loam with vegetation.
2162021	TP06	2	0.4	Brown clay and loam with gravel and vegetation.
2162022	WS02	1	0.3	Brown clay and loam with gravel and vegetation.
2162023	WS03	2	1.15	Brown sand with gravel.
2162024	WS03	3	1.4	Brown clay.
2162025	WS03	1	1	Brown sand.
2162026	TP12	1	1	Brown loam and clay with vegetation.
2162027	TP12	2	1.5	Brown clay and sand.
2162028	WS8	1	0.2	Brown clay and sand with gravel and vegetation.
2162029	WS8	2	0.5	Brown clay and sand.
2162030	WS8	1	1	Brown clay.
2162031	WS7	1	0.2	Grey sand with stones and vegetation.
2162032	WS10	1	0.2	Non Soil**
2162033	TP14	1	0.2	Brown loam and clay with vegetation.
2162034	TP14	2	0.5	Brown clay and sand with vegetation.
2162035	TP18	1	0.3	Brown clay and sand with stones.
2162036	TP18	1	1	Brown clay.
2162037	TP19	1	0.3	Brown clay and loam.
2162038	TP23	1	0.1	Brown clay and loam with gravel and vegetation.
2162039	TP22	1	0.15	Black tar with gravel.**
2162040	TP20	1	0.2	Brown clay and loam with gravel and vegetation.
2162041	TP26	2	1.2	Grey clay.
2162042	TP27	1	0.2	Brown clay and loam with gravel.
2162043	WS16	1	0.4	Brown clay.
2162044	TP29	1	2	Light brown clay with gravel and vegetation.
2162045	TP24	1	0.4	Brown clay with gravel.
2162046	TP31	1	0.2	Brown clay with gravel and vegetation.

** Non MCERTS matrix

Analytical Report Number : 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55

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
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L0738-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0738-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Coal Tar in Soil	DCM Extraction with qualitative interpretation via GC/MS	In-house method	L064-PL	D	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

Analytical Report Number : 22-37610
Project / Site name: NottinghamCity Airport ,PJS21-55

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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
TO - PFOS in soil	Analysed by LC-MS in SIM with ISTD correction	In-house method		W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report



Analytical Report Number : 22-37610

Project / Site name: NottinghamCity Airport ,PJS21-55

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP24	1	S	2162045	b	Speciated EPA-16 PAHs in soil	L064-PL	b
TP31	1	S	2162046	b	Speciated EPA-16 PAHs in soil	L064-PL	b
TP35	1	S	2162015	b	None Supplied	None Supplied	None Supplied

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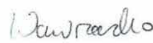
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Analytical Report Number : 22-38255

Project / Site name:	Nottingham City Airport PJS21-55	Samples received on:	07/02/2022
Your job number:	C10232	Samples instructed on / Analysis started on:	08/02/2022
Your order number:	PO 1975	Analysis completed by:	21/02/2022
Report Issue Number:	1	Report issued on:	21/02/2022
Samples Analysed:	3 leachate samples - 17 soil samples		

Signed: 

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
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.

Analytical Report Number: 22-38255
Project / Site name: Nottingham City Airport PJS21-55
Your Order No: PO 1975

Lab Sample Number				2165299	2165300	2165301	2165302	2165303
Sample Reference				TP41	WS27	TP44	WS20	TP35
Sample Number				1	1	1	1	1
Depth (m)				0.40	0.10	0.40	0.10	0.10
Date Sampled				03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	17	17	27	15
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	1.2	1.2

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.6	6.6	6.8	5.8	6.1
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.026	0.015	0.0074	0.0076	0.014
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	2.7	3.6	1.4	4.8	2.8
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	-

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	0.26	0.36	< 0.05	0.42	0.26
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.40	0.62	< 0.05	0.87	0.33
Pyrene	mg/kg	0.05	MCERTS	0.37	0.59	< 0.05	0.76	0.29
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.34	< 0.05	0.42	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.35	< 0.05	0.47	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.50	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.25	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.37	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.21	< 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	0.29	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1.03	2.26	< 0.80	4.56	0.88
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Analytical Report Number: 22-38255
Project / Site name: Nottingham City Airport PJS21-55
Your Order No: PO 1975

Lab Sample Number	2165299	2165300	2165301	2165302	2165303
Sample Reference	TP41	WS27	TP44	WS20	TP35
Sample Number	1	1	1	1	1
Depth (m)	0.40	0.10	0.40	0.10	0.10
Date Sampled	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.3	5.2	3.9	6.0	7.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	20	21	15	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	11	11	18	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	37	20	11	40	29
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	15	17	14	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	49	41	59	56

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

Analytical Report Number: 22-38255
 Project / Site name: Nottingham City Airport PJS21-55
 Your Order No: PO 1975

Lab Sample Number				2165299	2165300	2165301	2165302	2165303
Sample Reference				TP41	WS27	TP44	WS20	TP35
Sample Number				1	1	1	1	1
Depth (m)				0.40	0.10	0.40	0.10	0.10
Date Sampled				03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

Analytical Report Number: 22-38255
 Project / Site name: Nottingham City Airport PJS21-55
 Your Order No: PO 1975

Lab Sample Number	2165299	2165300	2165301	2165302	2165303
Sample Reference	TP41	WS27	TP44	WS20	TP35
Sample Number	1	1	1	1	1
Depth (m)	0.40	0.10	0.40	0.10	0.10
Date Sampled	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-38255
Project / Site name: Nottingham City Airport PJS21-55
Your Order No: PO 1975

Lab Sample Number	2165304	2165305	2165306	2165307	2165308
Sample Reference	TP34	TP36	TP04	TP09	TP05
Sample Number	1	1	2	1	1
Depth (m)	0.20	0.40	0.85	0.20	0.20
Date Sampled	03/02/2022	03/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	12
Total mass of sample received	kg	0.001	NONE	1.2	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	5.7	6.6	8.1	7.4	7.6
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	0.020	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0070	0.0097	0.043	0.0062	0.0076
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	43.3	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	5.5	-	-
Total Sulphur	%	0.005	MCERTS	-	-	0.007	-	-
Organic Matter (automated)	%	0.1	MCERTS	3.7	2.2	-	3.8	2.6
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	< 2.0	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	1.4	1.1
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	0.30	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	2.1	1.6
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	1.9	1.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	1.1	0.90
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	1.0	0.60
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	1.0	0.73
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	0.63	0.30
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	1.1	0.61
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	0.53	0.34
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	0.68	0.44

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	-	11.8	8.05
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Analytical Report Number: 22-38255
Project / Site name: Nottingham City Airport PJS21-55
Your Order No: PO 1975

Lab Sample Number				2165304	2165305	2165306	2165307	2165308
Sample Reference				TP34	TP36	TP04	TP09	TP05
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.40	0.85	0.20	0.20
Date Sampled				03/02/2022	03/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.6	4.3	-	7.5	7.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	-	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	16	-	17	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	16	-	27	23
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28	27	-	29	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	16	-	15	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58	46	-	82	61

Magnesium (water soluble)	mg/kg	5	NONE	-	-	19	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	9.3	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

Analytical Report Number: 22-38255
 Project / Site name: Nottingham City Airport PJS21-55
 Your Order No: PO 1975

Lab Sample Number				2165304	2165305	2165306	2165307	2165308
Sample Reference				TP34	TP36	TP04	TP09	TP05
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.40	0.85	0.20	0.20
Date Sampled				03/02/2022	03/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

Analytical Report Number: 22-38255

Project / Site name: Nottingham City Airport PJS21-55

Your Order No: PO 1975

Lab Sample Number				2165304	2165305	2165306	2165307	2165308
Sample Reference				TP34	TP36	TP04	TP09	TP05
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.40	0.85	0.20	0.20
Date Sampled				03/02/2022	03/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	-	-	-	-

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

Analytical Report Number: 22-38255
Project / Site name: Nottingham City Airport PJS21-55
Your Order No: PO 1975

Lab Sample Number	2165309	2165310	2165311	2165312	2165313
Sample Reference	TP10	TP10	WS01	WS01	WS23
Sample Number	1	2	1	2	1
Depth (m)	0.30	0.70	0.80	1.20	1.10
Date Sampled	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	17	< 0.1
Moisture Content	%	0.01	NONE	12	17
Total mass of sample received	kg	0.001	NONE	1.5	1.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	7.9	8.4	7.7	7.5
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	0.025
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	0.11	0.22	0.059	0.040
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	40.2
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	1.0
Total Sulphur	%	0.005	MCERTS	-	-	-	-	0.012
Organic Matter (automated)	%	0.1	MCERTS	6.6	0.8	2.2	0.8	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	< 2.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	1.3	< 0.05	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	4.5	< 0.05	< 0.05	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	4.7	< 0.05	< 0.05	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	42	< 0.05	1.4	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	15	< 0.05	0.41	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	72	< 0.05	3.1	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	65	< 0.05	2.9	< 0.05	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	38	< 0.05	1.9	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	31	< 0.05	1.6	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	29	< 0.05	2.1	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	9.5	< 0.05	1.1	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	23	< 0.05	2.2	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	18	< 0.05	1.0	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	4.7	< 0.05	0.29	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	17	< 0.05	1.2	< 0.05	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	375	< 0.80	19.1	< 0.80	-
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Analytical Report Number: 22-38255
Project / Site name: Nottingham City Airport PJS21-55
Your Order No: PO 1975

Lab Sample Number				2165309	2165310	2165311	2165312	2165313
Sample Reference				TP10	TP10	WS01	WS01	WS23
Sample Number				1	2	1	2	1
Depth (m)				0.30	0.70	0.80	1.20	1.10
Date Sampled				04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	120	5.6	8.1	3.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.2	2.0	< 0.2	-
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	49	51	19	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	79	16	34	11	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240	6.3	48	5.2	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	1.0	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	53	43	26	14	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	55	96	30	-

Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	17
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	8.7

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2165309	2165310	2165311	2165312	2165313
Sample Reference				TP10	TP10	WS01	WS01	WS23
Sample Number				1	2	1	2	1
Depth (m)				0.30	0.70	0.80	1.20	1.10
Date Sampled				04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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Lab Sample Number				2165309	2165310	2165311	2165312	2165313
Sample Reference				TP10	TP10	WS01	WS01	WS23
Sample Number				1	2	1	2	1
Depth (m)				0.30	0.70	0.80	1.20	1.10
Date Sampled				04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

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

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Lab Sample Number	2165314			2165315	
Sample Reference	WS24			WS25	
Sample Number	1			1	
Depth (m)	0.20			0.10	
Date Sampled	04/02/2022			04/02/2022	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	15
Total mass of sample received	kg	0.001	NONE	1.2	1.2

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	6.7
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.013	0.027
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-
Total Sulphur	%	0.005	MCERTS	-	-
Organic Matter (automated)	%	0.1	MCERTS	4.9	6.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-

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	1.9	1.5
Anthracene	mg/kg	0.05	MCERTS	0.27	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	3.5	2.7
Pyrene	mg/kg	0.05	MCERTS	3.1	2.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.7	1.1
Chrysene	mg/kg	0.05	MCERTS	1.7	1.4
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.3	1.6
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.76	0.90
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.0	1.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.94	0.74
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.27	0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	0.91

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	19.6	14.9
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Lab Sample Number	2165314			2165315	
Sample Reference	WS24			WS25	
Sample Number	1			1	
Depth (m)	0.20			0.10	
Date Sampled	04/02/2022			04/02/2022	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Soil Analysis)					
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	7.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	56	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	91	43
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	72

Magnesium (water soluble)	mg/kg	5	NONE	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	5.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	18	13
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	46	43
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	MCERTS	69	56

VOCs

Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0

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Lab Sample Number				2165314	2165315
Sample Reference				WS24	WS25
Sample Number				1	1
Depth (m)				0.20	0.10
Date Sampled				04/02/2022	04/02/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0

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Lab Sample Number	2165314			2165315		
Sample Reference	WS24			WS25		
Sample Number	1			1		
Depth (m)	0.20			0.10		
Date Sampled	04/02/2022			04/02/2022		
Time Taken	None Supplied			None Supplied		
Analytical Parameter (Soil Analysis)						
PCBs by GC-MS						
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	-	
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U/S = Unsuitable Sample I/S = Insufficient Sample



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Lab Sample Number	2165316	2165317	2165318
Sample Reference	TP44	TP36	TP10
Sample Number	1	1	1
Depth (m)	0.40	0.40	0.30
Date Sampled	04/02/2022	04/02/2022	04/02/2022
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)			

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	49
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.27	0.26	0.24
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.7	1.4	1.0
Copper (dissolved)	µg/l	0.7	ISO 17025	12	18	17
Lead (dissolved)	µg/l	1	ISO 17025	4.7	7.9	6.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	5.7	7.9	5.8
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	15	11	13

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

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Project / Site name: Nottingham City Airport PJS21-55

* 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 *
2165299	TP41	1	0.4	Brown clay and sand with gravel and vegetation.
2165300	WS27	1	0.1	Brown clay and loam with vegetation.
2165301	TP44	1	0.4	Brown clay and sand with gravel.
2165302	WS20	1	0.1	Brown loam and clay with vegetation.
2165303	TP35	1	0.1	Brown clay and sand with vegetation.
2165304	TP34	1	0.2	Brown clay and sand with vegetation.
2165305	TP36	1	0.4	Brown clay and sand with vegetation.
2165306	TP04	2	0.85	Brown clay and sand.
2165307	TP09	1	0.2	Brown loam and clay with stones.
2165308	TP05	1	0.2	Brown loam and clay with vegetation.
2165309	TP10	1	0.3	Brown loam and sand with gravel and stones.
2165310	TP10	2	0.7	Brown clay and sand.
2165311	WS01	1	0.8	Brown clay and loam with vegetation.
2165312	WS01	2	1.2	Brown clay and sand.
2165313	WS23	1	1.1	Brown clay and sand.
2165314	WS24	1	0.2	Brown clay and sand with vegetation.
2165315	WS25	1	0.1	Brown loam and sand with vegetation.

Analytical Report Number : 22-38255

Project / Site name: Nottingham City Airport PJS21-55

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
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
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
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (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
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

Analytical Report Number : 22-38255
Project / Site name: Nottingham City Airport PJS21-55

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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total



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Analytical Report Number : 22-44495

Project / Site name:	Tollerton Aerodrome - Nottingham City Airport PJSG21-55	Samples received on:	09/03/2022
Your job number:	C10232	Samples instructed on/ Analysis started on:	09/03/2022
Your order number:	PO-2108	Analysis completed by:	15/03/2022
Report Issue Number:	1	Report issued on:	15/03/2022
Samples Analysed:	3 water samples		


Signed: _____

Anna Goc
Technical Reviewer (Reporting Team)
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.



Analytical Report Number: 22-44495

Project / Site name: Tollerton Aerodrome - Nottingham City Airport PJSG21-55

Your Order No: PO-2108

Lab Sample Number	2199454	2199455	2199456
Sample Reference	WS08	Upstream	Downstream
Sample Number	1	1	2
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	08/03/2022	08/03/2022	08/03/2022
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)			

General Inorganics

pH	pH Units	N/A	ISO 17025	6.9	7.7	7.6
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	50	23

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	247	278	273
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16
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Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	44	77	76
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Magnesium (dissolved)	mg/l	0.005	ISO 17025	33	21	20

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.49	1.70	2.18
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.51	0.47
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.5	2.3	1.7
Copper (dissolved)	µg/l	0.5	ISO 17025	5.8	13	13
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.8	3.1	3.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.7	1.3	1.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.2	4.5	3.2



Analytical Report Number: 22-44495

Project / Site name: Tollerton Aerodrome - Nottingham City Airport PJSG21-55

Your Order No: PO-2108

Lab Sample Number	2199454			2199455	2199456	
Sample Reference	WS08			Upstream	Downstream	
Sample Number	1			1	2	
Depth (m)	None Supplied			None Supplied	None Supplied	
Date Sampled	08/03/2022			08/03/2022	08/03/2022	
Time Taken	None Supplied			None Supplied	None Supplied	
Analytical Parameter (Water Analysis)						
Petroleum Hydrocarbons						
TPH1 (C10 - C40) EH_20_TOTAL_#1_#2	µg/l	10	NONE	< 10	< 10	< 10

Environmental Forensics

PFOS	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PFOA	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05

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



Analytical Report Number : 22-44495

Project / Site name: Tollerton Aerodrome - Nottingham City Airport PJSG21-55

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
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 *for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW, (Al, Cu, Fe, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TO - PFOS in water	Analysed by LC-MS in SIM with ISTD correction	In-house method		W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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.



Analytical Report Number : 22-44495

Project / Site name: Tollerton Aerodrome - Nottingham City Airport PJSG21-55

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
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-38897

Project / Site name:	Nothingham City Airport PJS21 55	Samples received on:	04/02/2022
Your job number:	C10232	Samples instructed on / Analysis started on:	09/02/2022
Your order number:	PO 1975	Analysis completed by:	15/02/2022
Report Issue Number:	1	Report issued on:	15/02/2022
Samples Analysed:	3 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
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.

Analytical Report Number: 22-38897
 Project / Site name: Nottingham City Airport PJS21 55
 Your Order No: PO 1975

Lab Sample Number				2168425	2168426	2168427
Sample Reference				TP42	TP45	WS17
Sample Number				1	1	1
Depth (m)				1.50	1.00	1.30
Date Sampled				03/02/2022	03/02/2022	03/02/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)						
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	17	21
Total mass of sample received	kg	0.001	NONE	0.80	0.80	0.80

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.3	8.2	8.2
Total Sulphate as SO ₄	%	0.005	MCERTS	0.023	0.026	0.018
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.043	0.058	0.050
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	42.8	57.9	50.1
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.3	0.6	2.2
Total Sulphur	%	0.005	MCERTS	0.008	0.010	0.011
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	21	23	25
Magnesium (leachate equivalent)	mg/l	2.5	NONE	10	11	13

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

Analytical Report Number : 22-38897

Project / Site name: Nottingham City Airport PJS21 55

* 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 *
2168425	TP42	1	1.5	Brown clay and sand with gravel.
2168426	TP45	1	1	Brown clay and sand.
2168427	WS17	1	1.3	Brown clay and sand.

Analytical Report Number : 22-38897
Project / Site name: Nottingham City Airport PJS21 55

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
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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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Analytical Report Number : 22-38243-2

Replaces Analytical Report Number: 22-38243, issue no. 1
Client references/information amended.

Project / Site name:	Nottingham City Airport (PJS21-55)	Samples received on:	08/02/2022
Your job number:	C10232	Samples instructed on / Analysis started on:	08/02/2022
Your order number:	PO-1975	Analysis completed by:	18/02/2022
Report Issue Number:	2	Report issued on:	18/02/2022
Samples Analysed:	2 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
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.

Analytical Report Number: 22-38243-2
 Project / Site name: Nottingham City Airport (PJS21-55)
 Your Order No: PO-1975

Lab Sample Number	2165226			2165882	
Sample Reference	TP21			TP38	
Sample Number	1			1	
Depth (m)	1.00			0.50	
Date Sampled	02/02/2022			31/01/2022	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	20
Total mass of sample received	kg	0.001	NONE	1.2	1.0

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.0	7.1
Total Sulphate as SO ₄	%	0.005	MCERTS	0.017	0.041
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.023	0.059
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	22.9	58.8
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	1.9	1.4
Total Sulphur	%	0.005	MCERTS	0.008	0.018
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	29	49
Magnesium (leachate equivalent)	mg/l	2.5	NONE	15	25

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

Analytical Report Number : 22-38243-2

Project / Site name: Nottingham City Airport (PJS21-55)

* 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 *
2165226	TP21	1	1	Brown clay and sand with vegetation.
2165882	TP38	1	0.5	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 22-38243-2
Project / Site name: Nottingham City Airport (PJS21-55)

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
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
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
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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.

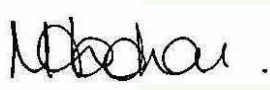
Appendix D: Geotechnical Testing Results



Laboratory Test Report

Client:	Exploration and Testing Associates Limited
Job Number:	C10 232
Project:	Nottingham City Airport, Tollerton
Report Number:	L22-096
Date Received:	08.02.2022
Client Contact:	Anthony Owen
Address:	'number three' Siskin Drive, Middlemarch Business Park, Coventry, CV3 4FJ

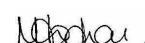
Testing Required:	Water Content – BS EN ISO 17892-1:2014 Determination of Liquid and Plastic Limits and Plasticity Index – BS EN ISO 17892-12:2018 Determination of Maximum Dry Density / Optimum Moisture Content by 4.5kg Compaction – BS:1377-4:1990
Date Testing Started:	10.02.2022
Date Testing Finished:	24.02.2022

Date Report Issued:	24.02.2022
Reviewed By:	 N. O'Brien – Laboratory Manager
Authorised By:	 N. Hodson – Materials Director
Remarks:	(*) Denotes testing is outside of UKAS Accreditation Scope.

Samples will be stored for one month after the report has been issued before being disposed of.

The published results are appertaining only to the specimens tested.

Exploration & Testing Associates Limited, registered in England and Wales # 11803869 at 8B Bowburn South Ind Est, Bowburn, Durham, DH6 5AD

				Determination of Water Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index						
Project No.				Project Name						
C10232				Nottingham City Airport (PJS21-55)						
Hole No.		Sample		Soil Description	Water Content %	Passing 425µm %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
	Type	Ref	Depth							
WS12	D	1	0.80	Brown with Orange Mottling, Slightly Sandy CLAY	28	100	49	25	24	Sample tested in natural state - material passing 425um estimated by hand picking
TP05	D	1	0.85	Grey GRAVEL	8.9					Non Plastic
TP40	D	1	0.90	Grey, Slightly Sandy, Slightly Gravelly CLAY	25	66	42 -1pt	18	24	Sample tested in natural state - material passing 425um estimated by hand picking
WS21	D	1	0.90	Brown, Slightly Sandy CLAY	21	96	38	17	21	Sample tested in natural state - material passing 425um estimated by hand picking
TP31	D	1	0.90	Grey and BROWN, Slightly Sandy CLAY	27	100	51	17	34	Sample tested in natural state - material passing 425um estimated by hand picking
WS10	D	1	0.90	Brown with Orange and Grey Mottling, Slightly Sandy CLAY	19	93	40	18	22	Sample tested in natural state - material passing 425um estimated by hand picking
TP34	D	1	1.00	Brown, Slightly Sandy CLAY	41	100	56	28	28	Sample tested in natural state - material passing 425um estimated by hand picking
TP43	D	1	1.00	Grey with Orange Mottling, Slightly Sandy CLAY	23	99	39	18	21	Sample tested in natural state - material passing 425um estimated by hand picking
TP12	D	1	1.00	Brown with Grey Mottling, Slightly Sandy CLAY	18	85	39	21	18	Sample tested in natural state - material passing 425um estimated by hand picking
WS04	D	1	1.00	Brown, Sandy CLAY	22	80	21	14	7	Sample tested in natural state - material passing 425um estimated by hand picking
TP06	D	1	1.00	Brown, Slightly Sandy CLAY	14	92	24	13	11	Sample tested in natural state - material passing 425um estimated by hand picking
TP15	D	1	1.05	Grey with Orange Mottling, Slightly Sandy CLAY	28	95	37	22	15	Sample tested in natural state - material passing 425um estimated by hand picking
TP26	D	1	1.10	Brown with Orange Mottling, Slightly Sandy CLAY	51	100	83	33	50	Sample tested in natural state - material passing 425um estimated by hand picking
WS15	D	1	1.20	Grey, Slightly Sandy, Organic CLAY	55	98	81	44	37	Sample tested in natural state - material passing 425um estimated by hand picking
TP35	D	1	1.20	Grey GRAVEL	17					Non Plastic
TP45	D	2	1.30	Grey GRAVEL	11					Non Plastic
TP28	D	1	1.50	Grey, Slightly Sandy CLAY with Occasional Gravel and Organic Matter	39	99	44	27	17	Sample tested in natural state - material passing 425um estimated by hand picking
WS14	D	1	1.50	Grey with Orange Mottling, Slightly Sandy CLAY	22	100	35 -1pt	15	20	Sample tested in natural state - material passing 425um estimated by hand picking
TP19	D	1	1.50	Brown with Grey Mottling, Slightly Sandy CLAY	20	99	41	20	21	Sample tested in natural state - material passing 425um estimated by hand picking
TP01	D	1	1.50	Brown, Slightly Sandy CLAY	27	100	33	22	11	Sample tested in natural state - material passing 425um estimated by hand picking
TP10	D	1	1.50	BROWN with Grey Mottling, Slightly Sandy CLAY	23	100	37	23	14	Sample tested in natural state - material passing 425um estimated by hand picking
TP22	D	1	2.00	Brown, Slightly Sandy CLAY	32	100	38	23	15	Sample tested in natural state - material passing 425um estimated by hand picking
TP36	D	2	2.20	Brown, Sandy CLAY	26	100	38	24	14	Sample tested in natural state - material passing 425um estimated by hand picking
TP03	D	1	2.40	Brown, Slightly Sandy CLAY	33	100	45	45	0	Sample tested in natural state - material passing 425um estimated by hand picking
WS20	D	2	2.40	Brown, Slightly Sandy CLAY	28	100	42	23	19	Sample tested in natural state - material passing 425um estimated by hand picking
TP41	D	1	2.50	Brown, Slightly Sandy CLAY	31	98	37	25	12	Sample tested in natural state - material passing 425um estimated by hand picking
Water Content carried out in accordance with BS EN ISO 17892: Part 1: 2014: Clause 5.1 & 5.2 Liquid Limit, Plastic Limit & Plasticity Index all performed in accordance with BS EN ISO 17892: Part 12: 2018 - Fall cone four point method - Cone 80g/30°						Date 24/02/2022 15:06		Approved By N Hodson		UKAS Accredited Laboratory No. 20632
										

Determination of Water Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index

[illegible]

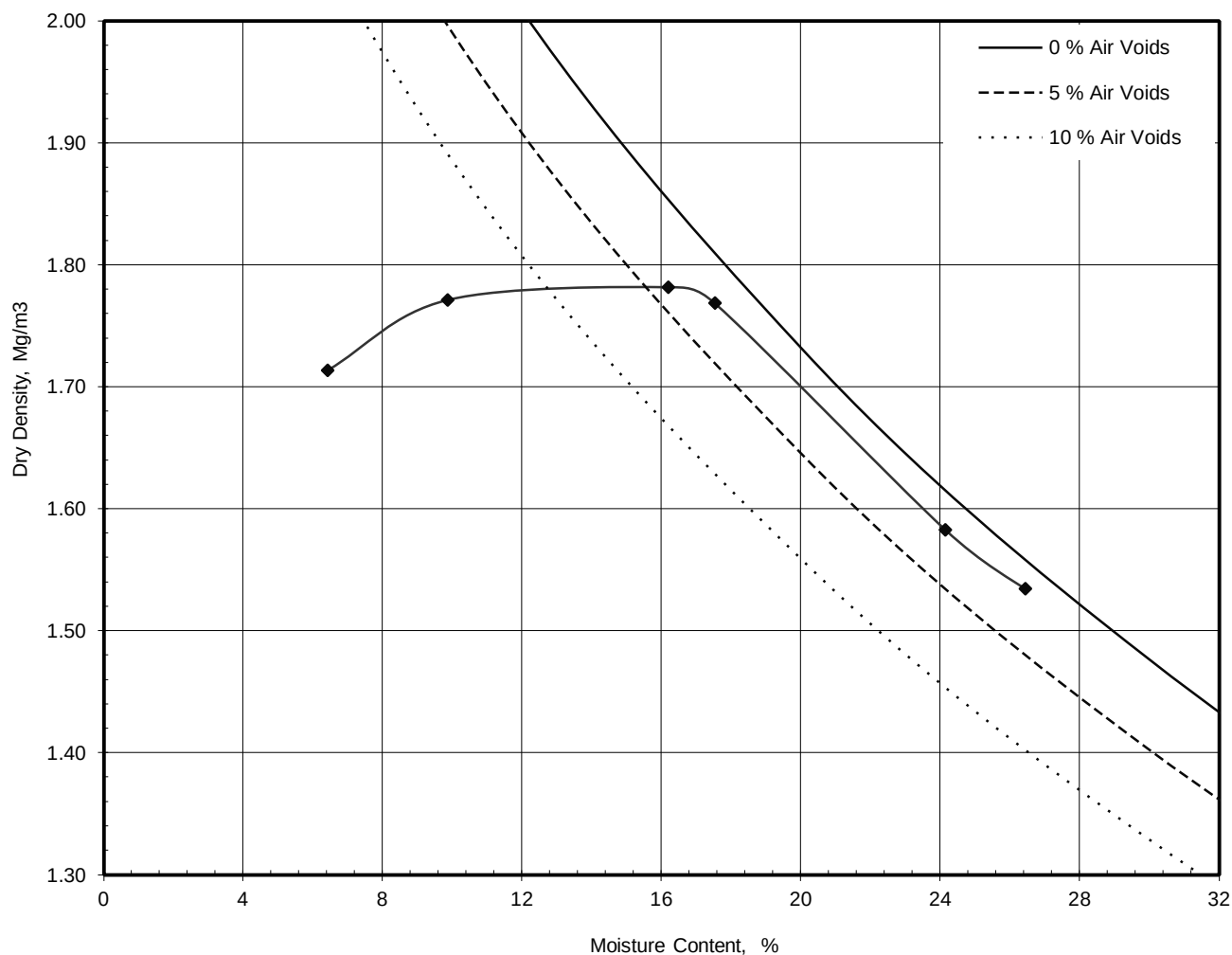


Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref	C10232
Borehole / Pit No	TP13
Sample No	1
Depth	0.50 m
Sample Type	B
Keylab ID	EAT_2022021121

Site Name	Nottingham City Airport (PJS21-55)		
Soil Description	Brown, Slightly Sandy, Slightly Gravelly CLAY		
Specimen Ref.		Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.6, 4.5kg rammer		

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	CBR	
Samples Used	Separate specimens tested	
Material Retained on 37.5 mm Sieve	%	10
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.78
Optimum Moisture Content	%	17

Comments	Date	Checked	Approved	UKAS Accredited Laboratory No. 20632
			N. Hodson	
			N. O'Brien	



Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref

C10232

Borehole / Pit No

TP33

Site Name

Nottingham City Airport (PJS21-55)

Sample No

1

Soil Description

Brown, Slightly Sandy CLAY

Depth

0.50 m

Specimen Ref.

Specimen Depth

m

Sample Type

B

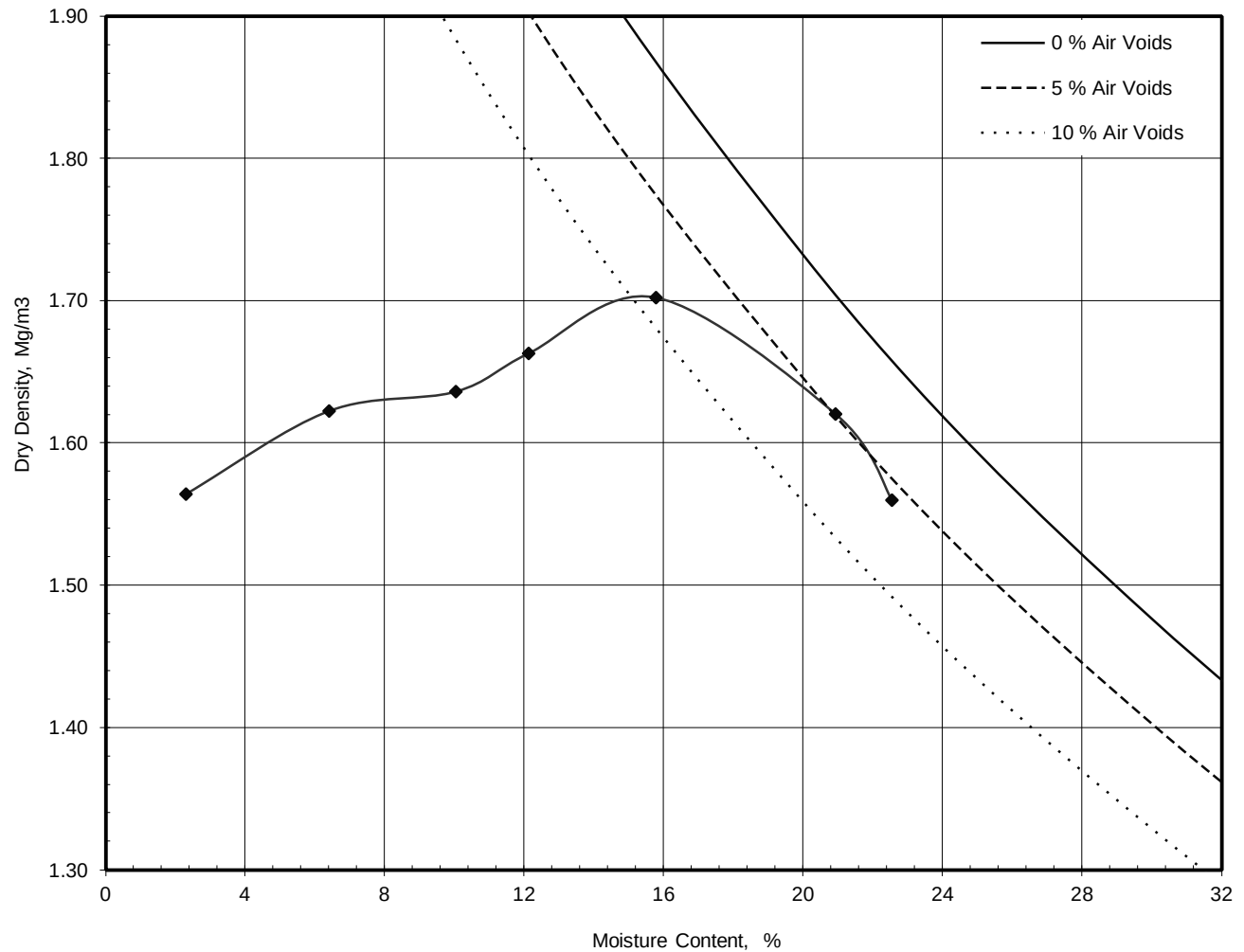
Test Method

BS1377:Part 4:1990, clause 3.5, 4.5kg rammer

Keylab ID

EAT_2022021140

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	1.70
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Optimum Moisture Content	%	12
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Comments

Date

24/02/2022 15:12

Checked

N. O'Brien

Approved

N. Hodson

UKAS Accredited
Laboratory No. 20632

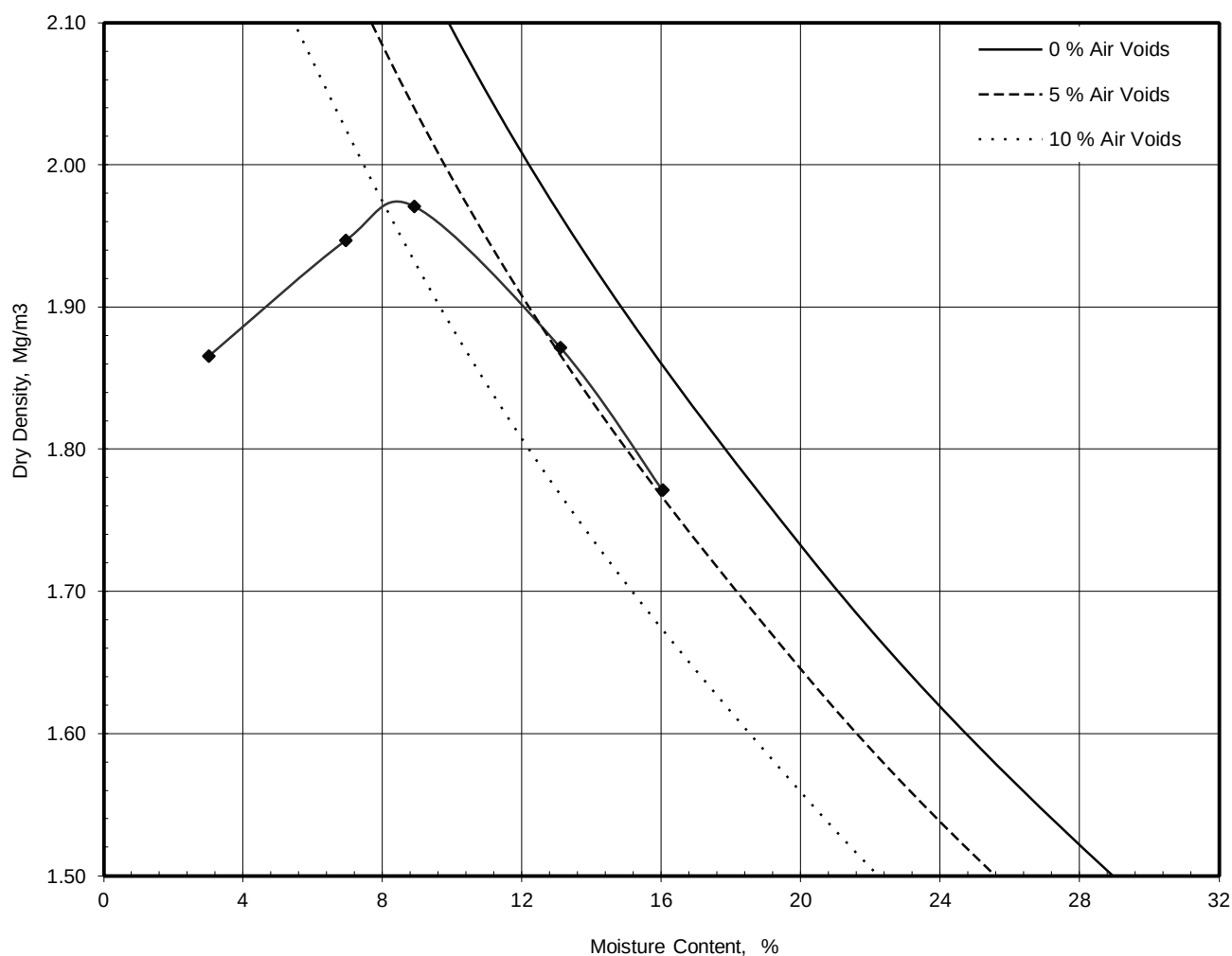


Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref	C10232
Borehole / Pit No	TP08
Sample No	1
Depth	0.80 m
Sample Type	B
Keylab ID	EAT_2022021144

Site Name	Nottingham City Airport (PJS21-55)		
Soil Description	Brown, Slightly Sandy CLAY		
Specimen Ref.		Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.5, 4.5kg rammer		

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	4
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.97
Optimum Moisture Content	%	8.9

Comments	Date	Checked	Approved	UKAS Accredited Laboratory No. 20632
			N. Hodson	
			N. O'Brien	



Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref

C10232

Borehole / Pit No

TP37

Site Name

Nottingham City Airport (PJS21-55)

Sample No

1

Soil Description

Brown, Sandy CLAY

Depth

0.80 m

Specimen Ref.

Specimen Depth

m

Sample Type

B

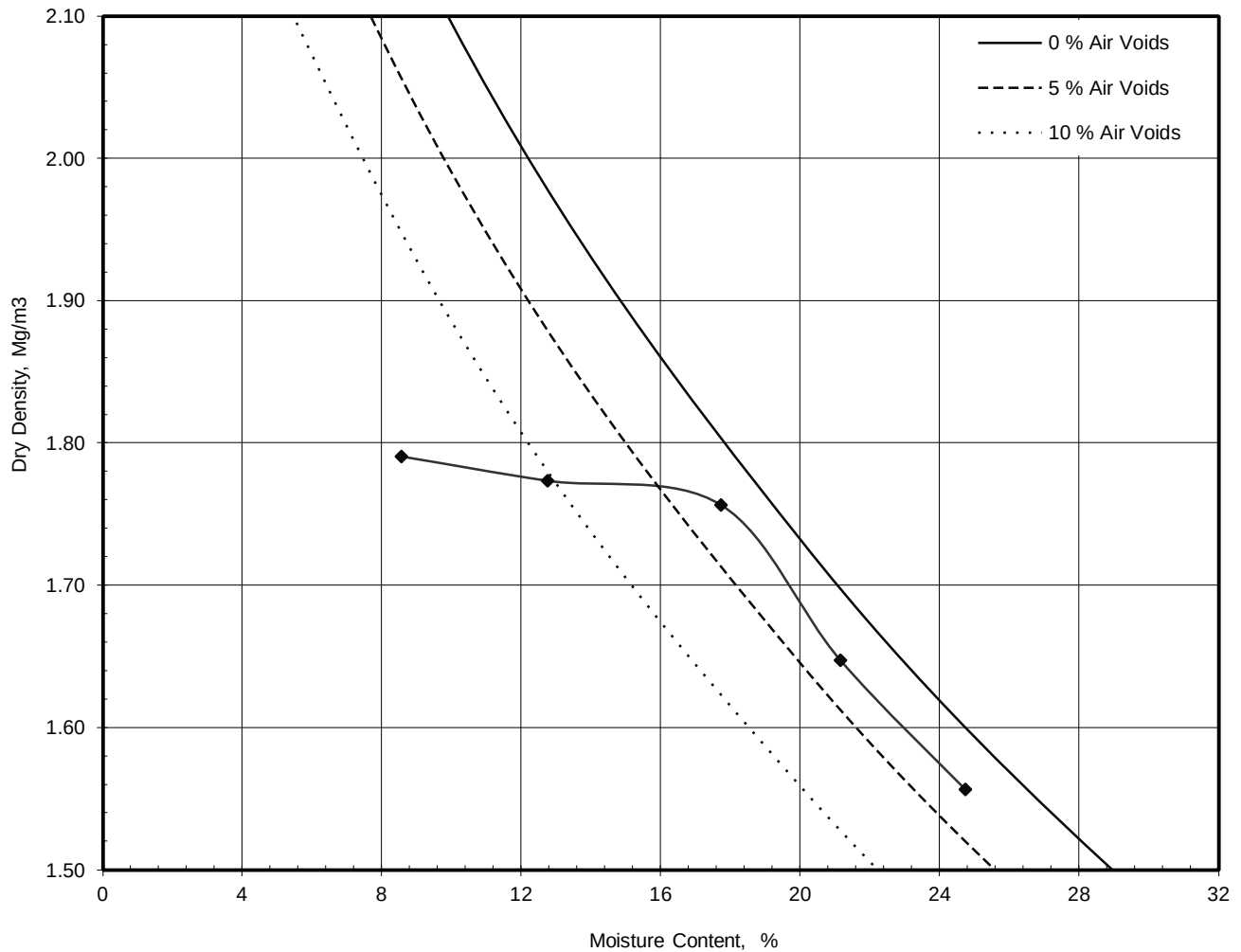
Test Method

BS1377:Part 4:1990, clause 3.5, 4.5kg rammer

Keylab ID

EAT_2022021113

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	1.79
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Optimum Moisture Content	%	18
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Comments

Date

24/02/2022 15:15

Checked

N. O'Brien

Approved

N. Hodson

UKAS Accredited
Laboratory No. 20632

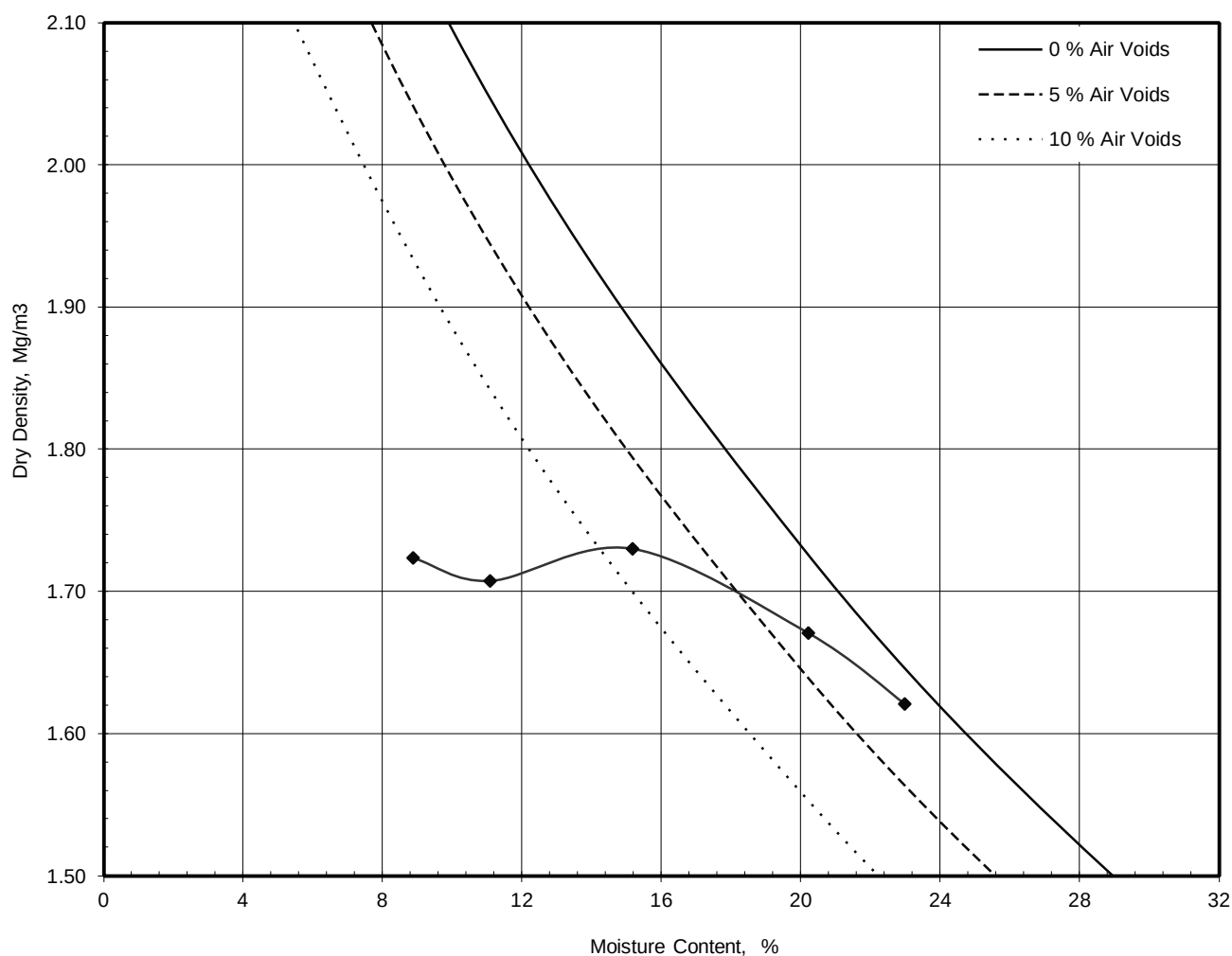


Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref	C10232
Borehole / Pit No	TP27
Sample No	1
Depth	1.00 m
Sample Type	B
Keylab ID	EAT_2022021122

Site Name	Nottingham City Airport (PJS21-55)		
Soil Description	Brown, Sandy CLAY		
Specimen Ref.		Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.5, 4.5kg rammer		

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.73
Optimum Moisture Content	%	15

Comments	Date 24/02/2022 15:16	Checked N. O'Brien	Approved	UKAS Accredited Laboratory No. 20632
			N. Hodson	



Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref

C10232

Borehole / Pit No

TP44

Site Name

Nottingham City Airport (PJS21-55)

Sample No

1

Soil Description

Brown, Slightly Sandy CLAY

Depth

1.00 m

Specimen Ref.

Specimen Depth

m

Sample Type

B

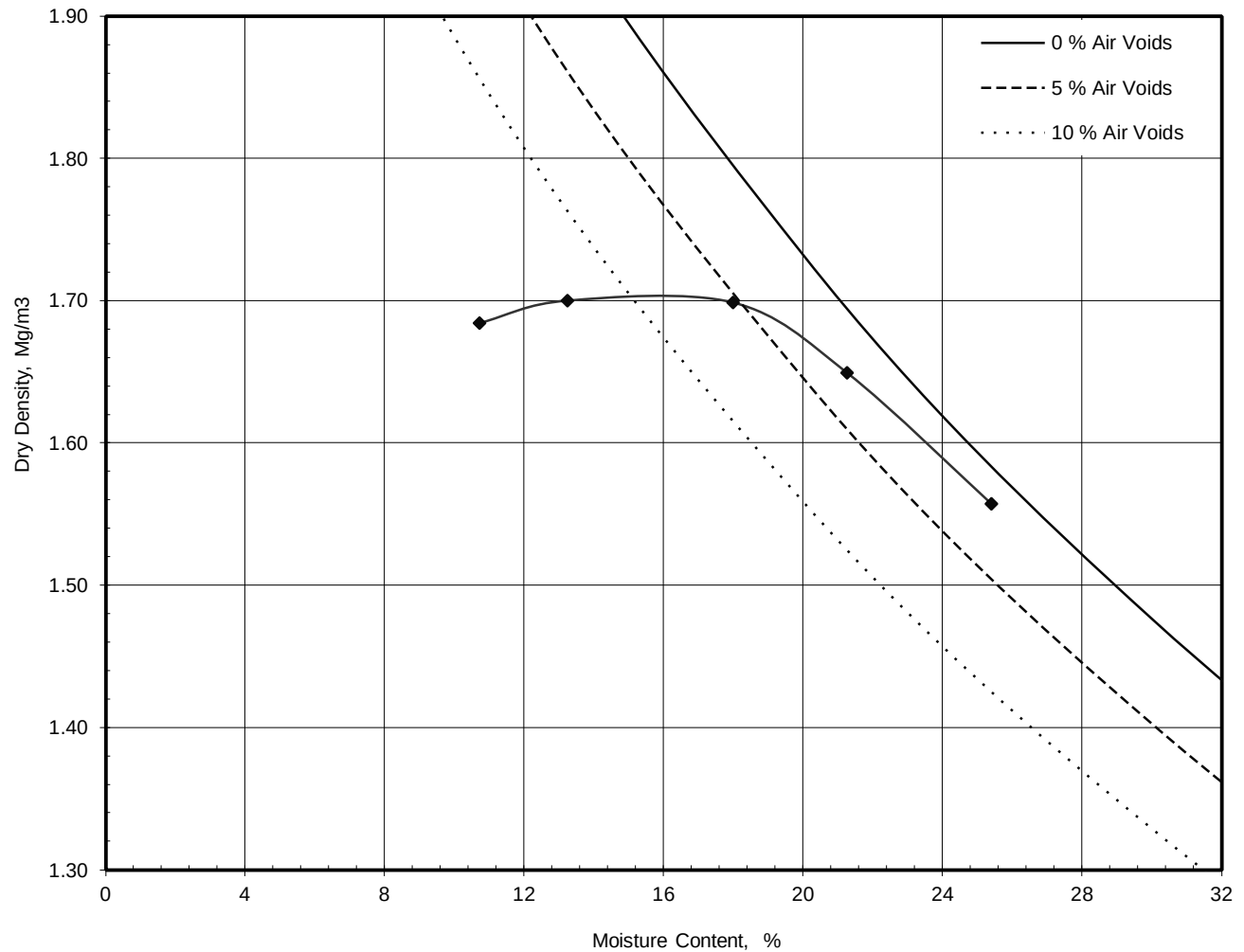
Test Method

BS1377:Part 4:1990, clause 3.5, 4.5kg rammer

Keylab ID

EAT_2022021139

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	1.70
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Optimum Moisture Content	%	18
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Comments

Date

24/02/2022 15:16

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N. O'Brien

Approved

N. Hodson

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Laboratory No. 20632



Dry Density / Moisture Content Relationship Heavy Compaction

Job Ref

C10232

Borehole / Pit No

TP17

Site Name

Nottingham City Airport (PJS21-55)

Sample No

1

Soil Description

Brown, Slightly Sandy CLAY

Depth

1.50 m

Specimen Ref.

Specimen Depth

m

Sample Type

B

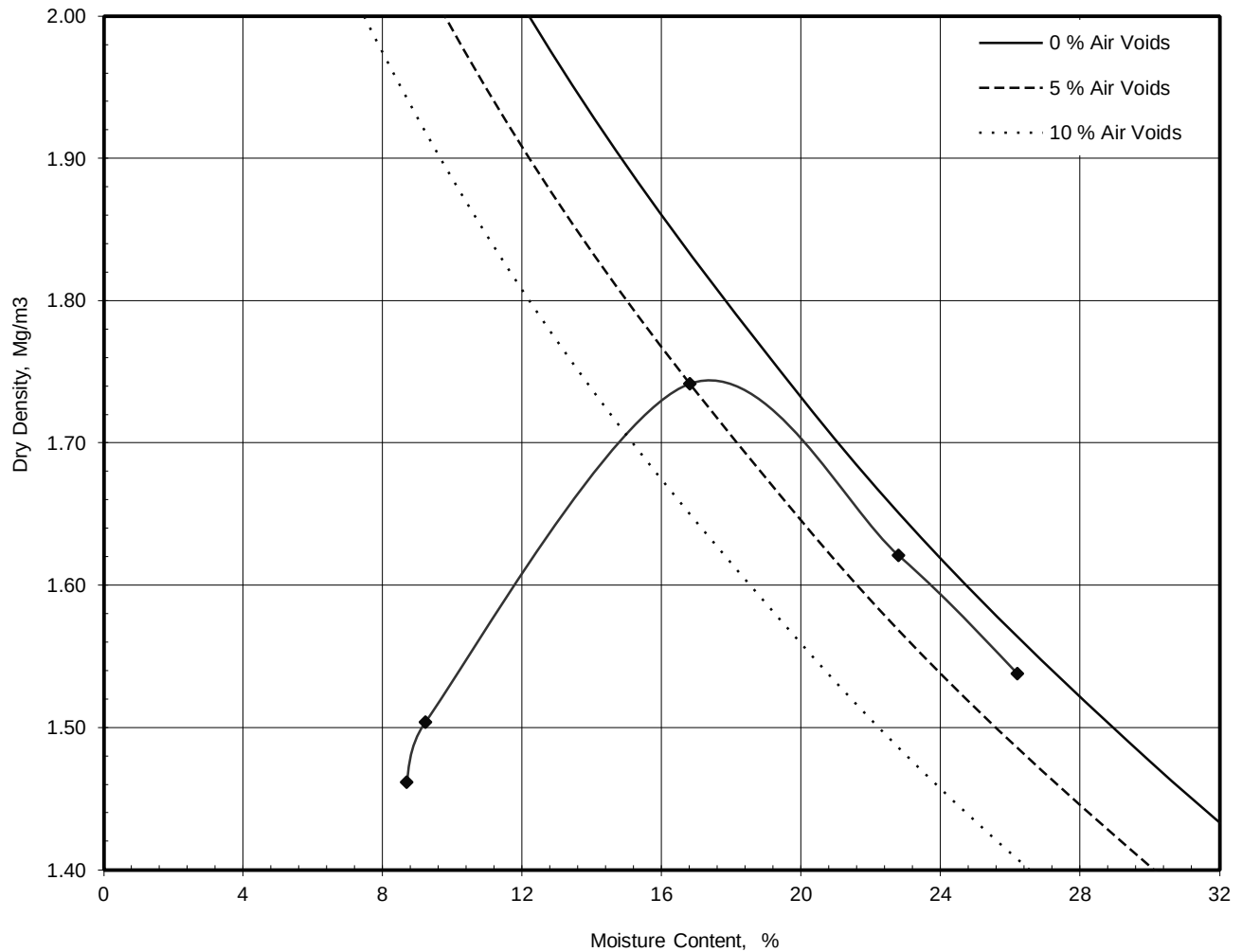
Test Method

BS1377:Part 4:1990, clause 3.5, 4.5kg rammer

Keylab ID

EAT_2022021120

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	4
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	1.74
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Optimum Moisture Content	%	17
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Comments

Date

24/02/2022 15:19

Checked

N. O'Brien

Approved

N. Hodson

UKAS Accredited
Laboratory No. 20632

Appendix E: Gas & Groundwater Monitoring Records



Gas & Groundwater Monitoring Record

Site Name:	Nottingham City Airport, Tollerton
Undertaken by:	NB
Equipment Used:	Gas Data (GFM 436)
Atmospheric Pressure Trend	Falling
Temperature:	6

Job Number:	PJSG21-55
Date:	15th February 2022
Last Calibrated:	26th November 2021
Time of Works:	AM
Weather Conditions:	Heavy rain, saturated ground, very windy

Time	BH Ref.	Depth of BH (m)	Depth of Water (m)	Gas Flow (l/hr)		CH ₄ (% v/v)		CO ₂ (% v/v)		O (% v/v)		CO (ppm)	H ₂ S (ppm)	BH Pessure (Pa)	Atmospheric Pressure (mb)
				Peak	Steady	Peak	Steady	Peak	Steady	Low	Steady	Peak	Peak		
11:24	WS02	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
11:43	WS03	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
11:07	WS05	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
10:51	WS08	4.70	2.58	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
10:38	WS10	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
10:25	WS12	3.00	2.75	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
10:05	WS15	3.00	0 ^a	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
09:53	WS16	1.00	0 ^a	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
09:41	WS17	4.00	3.06	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.2	20.2	< 1	< 1	0	996
09:32	WS19	2.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
08:35	WS21	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
11:31	WS23	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
08:45	WS24	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
08:56	WS25	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	996
09:15	WS27	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.4	20.4	< 1	< 1	0	996

Maximum	0	0	0	0	20.4	0	0	996
Minimum	0	0	0	0	20.1	0	0	996

	CH ₄	CO ₂	O ₂	CO	H ₂ S
Background Readings	< 0.1	< 0.1	20.1	< 1	< 1

General remark/ Observation
^a Unable to be bailed to a steady state.

Gas & Groundwater Monitoring Record

Site Name:	Nottingham City Airport, Tollerton
Undertaken by:	NB
Equipment Used:	Gas Data (GFM 436)
Atmospheric Pressure Trend	Falling
Temperature:	8

Job Number:	PJSG21-55
Date:	22nd February 2022
Last Calibrated:	26th November 2021
Time of Works:	AM
Weather Conditions:	Windy, cloudy, wet

Time	BH Ref.	Depth of BH (m)	Depth of Water (m)	Gas Flow (l/hr)		CH ₄ (% v/v)		CO ₂ (% v/v)		O (% v/v)		CO (ppm)	H ₂ S (ppm)	BH Pessure (Pa)	Atmospheric Pressure (mb)
				Peak	Steady	Peak	Steady	Peak	Steady	Low	Steady	Peak	Peak		
11:22	WS02	4.00	3.86	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.5	20.5	< 1	< 1	0	1007
11:38	WS03	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.7	20.7	< 1	< 1	0	1007
11:14	WS05	1.00	0.82	< 0.1	< 0.1	< 0.1	< 0.1	0.7	0.7	19.2	19.2	< 1	< 1	0	1005
10:39	WS08	4.70	2.42	< 0.1	< 0.1	< 0.1	< 0.1	2	2.2	16.4	16.4	< 1	< 1	0	1005
10:29	WS10	1.00	DRY	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.7	20.7	< 1	< 1	1	1004
10:20	WS12	3.00	1.62	0.1	0.1	< 0.1	< 0.1	1.2	1.2	16.6	16.6	< 1	< 1	1	1005
10:02	WS15	3.00	DRY ^b	0.1	0.1	< 0.1	< 0.1	0.1	0.1	20.7	20.7	< 1	< 1	1	1005
09:47	WS16	1.00	0 ^a	0.3	0.3	0.1	0.1	0.3	0.3	18.1	18.1	< 1	< 1	2	1005
09:38	WS17	4.00	1.47	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.4	15.1	15.1	< 1	< 1	0	1005
09:26	WS19	2.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.7	0.7	19.5	19.5	< 1	< 1	0	1005
08:29	WS21	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	18.2	18.2	< 1	< 1	0	1005
11:29	WS23	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	5.7	5.7	0.3	0.3	< 1	< 1	0	1007
08:38	WS24	4.00	DRY	0.4	0.2	< 0.1	< 0.1	1.7	1.7	11.4	11.4	< 1	< 1	2	1005
08:46	WS25	5.00	DRY	0.2	0.1	< 0.1	< 0.1	4.5	4.5	13.7	13.7	< 1	< 1	1	1005
09:07	WS27	3.00	DRY ^b	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	20.5	20.5	< 1	< 1	2	1005

Maximum	0.4	0.3	0.1	5.7	20.7	0	0	1007
Minimum	0.1	0.1	0.1	0.1	0.3	0	0	1004

Background Readings	CH ₄	CO ₂	O ₂	CO	H ₂ S
	< 0.1	< 0.1	20.7	< 1	< 1

General remark/ Observation
^a Unable to be bailed to a steady state.
^b Bailed dry prior to monitoring, returned at end of monitoring round and remeasured and depth recorded.

Gas & Groundwater Monitoring Record

Site Name:	Nottingham City Airport, Tollerton
Undertaken by:	NB
Equipment Used:	Gas Data (GFM 436)
Atmospheric Pressure Trend	Static
Temperature:	9

Job Number:	PJSG21-55
Date:	3rd March 2022
Last Calibrated:	26th November 2021
Time of Works:	AM
Weather Conditions:	Overcast, windy, saturated underfoot

Time	BH Ref.	Depth of BH (m)	Depth of Water (m)	Gas Flow (l/hr)		CH ₄ (% v/v)		CO ₂ (% v/v)		O (% v/v)		CO (ppm)	H ₂ S (ppm)	BH Pessure (Pa)	Atmospheric Pressure (mb)
				Peak	Steady	Peak	Steady	Peak	Steady	Low	Steady	Peak	Peak		
12:24	WS02	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.4	20	20	< 1	< 1	0	1022
12:43	WS03	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.6	0.6	17.7	17.7	< 1	< 1	0	1023
12:07	WS05	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.4	19.1	20.7	< 1	< 1	0	1023
11:51	WS08	4.70	2.18	< 0.1	< 0.1	< 0.1	< 0.1	2.1	2.1	15.3	15.3	< 1	< 1	0	1023
11:38	WS10	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.7	20.7	< 1	< 1	0	1023
11:25	WS12	3.00	1.62	< 0.1	< 0.1	< 0.1	< 0.1	1.3	1.3	15.6	15.6	< 1	< 1	0	1023
11:05	WS15	3.00	0 ^a												
10:53	WS16	1.00	0 ^b	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.9	20.9	< 1	< 1	0	1022
10:41	WS17	4.00	1.44	< 0.1	< 0.1	< 0.1	< 0.1	1.2	1.2	15.4	15.4	< 1	< 1	0	1022
10:32	WS19	2.00	DRY	0.7	0.7	< 0.1	< 0.1	0.7	0.7	18.7	18.7	< 1	< 1	3	1018
09:35	WS21	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	3.5	3.5	13.7	13.7	< 1	< 1	0	1022
12:31	WS23	5.00	DRY	0.1	0.1	< 0.1	< 0.1	0.1	0.1	20.1	20.1	< 1	< 1	1	1022
09:45	WS24	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.3	1.2	13.5	13.5	< 1	< 1	0	1023
09:56	WS25	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	3.8	3.8	12.4	12.4	< 1	< 1	0	1023
10:15	WS27	3.00	2.17	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.9	20.9	< 1	< 1	0	1021

Maximum	0.7	0.7	0	3.8	20.9	0	0	1023
Minimum	0.1	0.1	0	0.1	12.4	0	0	1018

	CH ₄	CO ₂	O ₂	CO	H ₂ S
Background Readings	< 0.1	< 0.1	20.9	< 1	< 1

General remark/ Observation
^a Area surrounding borehole saturated and flooded, unable to monitor. ^b Unable to be bailed to a steady state.

Gas & Groundwater Monitoring Record

Site Name:	Nottingham City Airport, Tollerton
Undertaken by:	NB
Equipment Used:	Gas Data (GFM 436)
Atmospheric Pressure Trend	Static
Temperature:	11

Job Number:	PJSG21-55
Date:	08th March 2022
Last Calibrated:	26th November 2021
Time of Works:	AM
Weather Conditions:	Cloudless, light wind, saturated underfoot

Time	BH Ref.	Depth of BH (m)	Depth of Water (m)	Gas Flow (l/hr)		CH ₄ (% v/v)		CO ₂ (% v/v)		O (% v/v)		CO (ppm)	H ₂ S (ppm)	BH Pessure (Pa)	Atmospheric Pressure (mb)
				Peak	Steady	Peak	Steady	Peak	Steady	Low	Steady	Peak	Peak		
11:52	WS02	4.00	3.27	0.7	< 0.1	< 0.1	< 0.1	0.3	0.3	20.1	20.1	< 1	< 1	7	1007
12:08	WS03	4.00	3.86	0.4	0.3	< 0.1	< 0.1	3.9	3.9	0.1	0.1	10	< 1	4	1006
11:44	WS05	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.1	20.1	< 1	< 1	0	1006
11:09	WS08	4.70	2.05	< 0.1	< 0.1	< 0.1	< 0.1	1.8	1.8	16.1	16.1	< 1	< 1	0	1008
10:59	WS10	1.00	0.92	0.2	0.1	< 0.1	< 0.1	0.5	0.5	20.0	20.0	< 1	< 1	1	1008
10:50	WS12	3.00	1.61	< 0.1	< 0.1	< 0.1	< 0.1	1.1	1.1	15.0	15.0	< 1	< 1	0	1008
10:32	WS15	3.00	0 ^a	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.7	20.7	< 1	< 1	0	1008
10:17	WS16	1.00	0 ^a	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.7	20.7	< 1	< 1	0	1008
10:08	WS17	4.00	1.35	< 0.1	< 0.1	< 0.1	< 0.1	1.1	1.1	14.0	14.0	< 1	< 1	0	1008
09:56	WS19	2.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.9	1.9	15.6	15.6	< 1	< 1	0	1008
08:59	WS21	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	20.7	20.7	< 1	< 1	0	1007
11:59	WS23	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.7	0.7	14.1	14.1	< 1	< 1	0	1007
09:08	WS24	4.00	DRY	0.4	0.4	< 0.1	< 0.1	2.8	2.8	4.1	4.1	< 1	< 1	3	1010
09:16	WS25	5.00	DRY	0.1	< 0.1	< 0.1	< 0.1	4.2	4.2	10.2	10.2	< 1	< 1	1	1008
09:37	WS27	3.00	2.16	0.9	0.9	< 0.1	< 0.1	0.4	0.4	16.4	16.4	< 1	< 1	7	1008

Maximum	0.9	0.9
Minimum	0.1	0.1

0
0

4.2
0.3

20.7	10	0
0.1	10	0

1010
1006

	CH ₄	CO ₂	O ₂	CO	H ₂ S
Background Readings	< 0.1	< 0.1	20.9	< 1	< 1

General remark/ Observation
^a Unable to be bailed to a steady state.

Gas & Groundwater Monitoring Record

Site Name:	Nottingham City Airport, Tollerton
Undertaken by:	NB
Equipment Used:	Gas Data (GFM 436)
Atmospheric Pressure Trend	Falling
Temperature:	10

Job Number:	PJSG21-55
Date:	28th April 2022
Last Calibrated:	26th November 2021
Time of Works:	AM
Weather Conditions:	Cloudy, light breeze, humid

Time	BH Ref.	Depth of BH (m)	Depth of Water (m)	Gas Flow (l/hr)		CH ₄ (% v/v)		CO ₂ (% v/v)		O (% v/v)		CO (ppm)	H ₂ S (ppm)	BH Pressure (Pa)	Atmospheric Pressure (mb)
				Peak	Steady	Peak	Steady	Peak	Steady	Low	Steady	Peak	Peak		
12:24	WS02	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.4	20.2	20.2	< 1	< 1	0	1030
12:43	WS03	4.00	DRY	0.2	0.2	< 0.1	< 0.1	2.3	2.3	12.8	12.8	< 1	< 1	1	1030
12:07	WS05	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.6	0.6	20.0	20.0	< 1	< 1	0	1030
11:51	WS08	4.70	2.93	< 0.1	< 0.1	< 0.1	< 0.1	2.0	2.0	15.9	15.9	< 1	< 1	0	1030
11:38	WS10	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.5	0.5	20.4	20.4	< 1	< 1	0	1030
11:25	WS12	3.00	2.81	< 0.1	< 0.1	< 0.1	< 0.1	1.2	1.2	15.7	15.7	< 1	< 1	0	1030
11:05	WS15	3.00	DRY ^b	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1	20.7	20.7	< 1	< 1	0	1030 ^b
10:53	WS16	1.00	0 ^a	< 0.1	< 0.1	< 0.1	< 0.1	0.3	0.3	19.9	19.9	< 1	< 1	0	1030 ^a
10:41	WS17	4.00	3.06	< 0.1	< 0.1	< 0.1	< 0.1	0.9	0.9	14.8	14.8	< 1	< 1	0	1030
10:32	WS19	2.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.1	1.1	17.9	17.9	< 1	< 1	0	1030
09:35	WS21	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	3.5	3.5	17.5	17.5	< 1	< 1	0	1030
12:31	WS23	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	2.2	2.2	11.5	11.5	< 1	< 1	0	1030
09:45	WS24	4.00	DRY	0.1	0.1	< 0.1	< 0.1	1.9	1.9	9.6	9.6	< 1	< 1	0	1030
09:56	WS25	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	4.2	4.2	12.1	12.1	< 1	< 1	0	1030
10:15	WS27	3.00	2.18	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.4	19.2	19.2	< 1	< 1	0	1030 ^b

Maximum	0.2	0.2	0	4.2	20.7	0	0	1030
Minimum	0.1	0.1	0	0.1	9.6	0	0	1030

Background Readings	CH ₄	CO ₂	O ₂	CO	H ₂ S
	< 0.1	< 0.1	20.1	< 1	< 1

General remark/ Observation
^a Unable to be bailed to a steady state.
^b Bailed dry prior to monitoring, returned at end of monitoring round and remeasured and depth recorded.

Gas & Groundwater Monitoring Record

Site Name:	Nottingham City Airport, Tollerton
Undertaken by:	NB
Equipment Used:	Gas Data (GFM 436)
Atmospheric Pressure Trend	Static
Temperature:	16

Job Number:	PJSG21-55
Date:	16th May 2022
Last Calibrated:	26th November 2021
Time of Works:	AM
Weather Conditions:	Warm, wet, humid, cloudy

Time	BH Ref.	Depth of BH (m)	Depth of Water (m)	Gas Flow (l/hr)		CH ₄ (% v/v)		CO ₂ (% v/v)		O (% v/v)		CO (ppm)	H ₂ S (ppm)	BH Pressure (Pa)	Atmospheric Pressure (mb)
				Peak	Steady	Peak	Steady	Peak	Steady	Low	Steady	Peak	Peak		
11:22	WS02	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.2	1.2	18.4	18.4	< 1	< 1	0	1006
11:38	WS03	4.00	DRY	1.4	1.4	< 0.1	< 0.1	6.7	6.7	0.2	0.2	< 1	< 1	11	1006
11:14	WS05	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.2	19.9	19.9	< 1	< 1	0	1006
10:39	WS08	4.70	2.94	< 0.1	< 0.1	< 0.1	< 0.1	2.4	2.4	17.7	17.7	< 1	< 1	0	1006
10:29	WS10	1.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.8	0.8	20.1	20.1	< 1	< 1	0	1006
10:20	WS12	3.00	2.94	< 0.1	< 0.1	0.1	0.1	2.3	2.3	10.8	10.8	< 1	< 1	0	1006
10:02	WS15	3.00	DRY ^b	< 0.1	< 0.1	< 0.1	< 0.1	2.2	2.2	12.9	12.9	< 1	< 1	0	1006
09:47	WS16	1.00	0 ^a	< 0.1	< 0.1	< 0.1	< 0.1	2.2	2.2	15.1	15.1	< 1	< 1	0	1006
09:38	WS17	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.3	1.3	14.1	14.1	< 1	< 1	0	1006
09:26	WS19	2.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	2.8	2.8	12.7	12.7	< 1	< 1	0	1006
08:29	WS21	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.4	1.4	19.5	19.5	< 1	< 1	0	1006
11:29	WS23	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1	20.6	20.6	< 1	< 1	0	1006
08:38	WS24	4.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	4.8	4.8	12.5	12.5	< 1	< 1	0	1006
08:46	WS25	5.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	2.1	2.1	11.9	11.9	< 1	< 1	0	1006
09:07	WS27	3.00	DRY	< 0.1	< 0.1	< 0.1	< 0.1	1.1	1.1	20.0	20.0	< 1	< 1	0	1006

Maximum	1.4	1.4	0.1	6.7	20.6	0	0	1006
Minimum	1.4	1.4	0.1	0.1	0.2	0	0	1006

Background Readings	CH ₄	CO ₂	O ₂	CO	H ₂ S
	< 0.1	< 0.1	20.4	< 1	< 1

General remark/ Observation
^a Unable to be bailed to a steady state.
^b Flooded - bailed dry prior to monitoring, returned at end of monitoring round and remeasured and depth recorded.

Appendix F: UXO Risk Management Survey Report



FELLOWS

The UXO risk management experts

Part of the Optima Group



UXO Risk Management Survey Report

FIL Reference: 3259L

Client: PJS Geotechnical Engineers Limited

Project: GI Support

Site Location: Tollerton Airfield, Nottinghamshire, NG12 4GA

Project Dates: 31 January – 04 February 2022



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Document Control

Version Date	Version	Author	Reviewer	Comments
08 Feb 22	10	Kirsty Parry	Carl Parnell	Original

Quality Check

Version Date	Version	Checked by	Comments
08 Feb 22	10	Emily Osborne	QC / format check

Document Approval

	Reviewed by	Approved by
Sig nature		
Print Name	Carl Parnell	Michael Jarwood
Date	08 February 2022	08 February 2022

Distribution

Date	Copy No.	Recipient	Format
08 Feb 22	1	PJS Geotechnical Engineers Limited	PDF
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1. Project Detail

Client:	PJS Geotechnical Engineers Limited
Survey Objectives:	To locate, using electromagnetic means, any Unexploded Ordnance [UXO] that could pose a risk to intrusive engineering ground investigation works.
Location	Tollerton Airfield, Nottinghamshire, NG12 4GA
Dates	31 st January – 04 th February 2022

2. Equipment

UXO Locators:	Ebinger Magnex 120LW Magnetometer
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3. Method

A single UXO Survey Engineer utilised an Ebinger Magnex 120LW Magnetometer to identify possible UXO in the vicinity of the ground investigation positions in accordance with Fellows methodology dated 24 January 2022.

See GI Position Log for details.

4. Results & Recommendations

No evidence of UXO was found in the cleared areas. A UXO Clearance Status Certificate is attached.

NOTE: Only the positions of the ground investigation listed on the GI Position Log are certified free from UXO. If it is intended to conduct intrusive ground engineering operations outside of these surveyed positions a danger from UXOs still exists and the site should be surveyed for any UXO contamination before any future groundwork starts.

5. Unexploded Bomb (UXB) Penetration Depth

The magnetometer survey depth at each GI position is individually assessed taking into account the estimated maximum penetration depth for a typical WWII aerial weapon in relation to the ground conditions encountered. Unless otherwise stated, the depth achieved is that considered sufficient to clear the position for UXBs.

UXO Clearance Status Certificate

Site Name: Tollerton Airfield, Nottinghamshire, NG12 4GA

FIL Ref. 3259L

Date of Certificate: 08 February 2022

The Unexploded Ordnance (UXO) clearance status for each GI position is indicated on the attached GI Position Log to the logged depth (referenced to ground level), subject to the limitations outlined below. The GI positions cleared were identified to the Fellows UXO Engineer by the onsite Engineer.

Fellows UXO Survey Engineer: Chris Green

Limitations

Detection of a UXOs depends on a sufficient magnetic susceptibility contrast between the UXO and its host materials. Significant degradation of the casing of such a device or highly magnetic soils may prevent detection under certain circumstances.

The radius of detection (from each GI position) for a particular type of UXO depends on several parameters including the sensor system used, the size and orientation of the device and the levels of ambient magnetic noise on the site. High levels of noise may prevent detection in certain areas.

GI Position Log

GI No.	Cleared Yes/ No	Equipment / Search Used	Survey Depth	Remarks
WS01	Yes	Ebinger Magnex 120LW Magnetometer	5m	Scanned at surface & 3m. No evidence of UXO
WS02	Yes	Ebinger Magnex 120LW and downhole cable	5m	Scanned at surface & 3m. No evidence of UXO
WS03	Yes	Ebinger Magnex 120LW and downhole cable	5m	Scanned at surface & 3m. No evidence of UXO
WS04	Yes	Ebinger Magnex 120LW and downhole cable	5m	Scanned at surface & 3m. No evidence of UXO
WS05	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS06	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS07	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS08	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS09	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS10	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS11	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS12	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS13	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS14	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO

GI No.	Cleared Yes/ No	Equipment / Search Used	Survey Depth	Remarks
WS15	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS16	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS17	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS18	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS19	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS20	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS21	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS22	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS23	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS24	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS25	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS26	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
WS27	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TR01	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TR02	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO

GI No.	Cleared Yes/ No	Equipment / Search Used	Survey Depth	Remarks
TP03	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP04	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP05	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP06	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP07	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP08	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP09	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP10	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP11	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP12	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP13	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP14	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP15	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP16	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP17	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO

GI No.	Cleared Yes/ No	Equipment / Search Used	Survey Depth	Remarks
TP18	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP19	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP20	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP21	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP22	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP23	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP24	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP25	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP26	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP27	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP28	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP29	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP30	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP31	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP32	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO

GI No.	Cleared Yes/ No	Equipment / Search Used	Survey Depth	Remarks
TP33	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP34	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP35	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP36	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP37	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP38	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP39	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP40	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP41	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP42	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP43	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP44	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO
TP45	Yes	Ebinger Magnex 120LW and downhole cable	3m	Position scanned at surface. No evidence of UXO

FELLOWS

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