

Network Space Limited

PARCEL 1, ALCHEMY WAY, KNOWSLEY

Phase 2 Ground Investigation Report



Network Space Limited

Alchemy Way, Knowsley

Phase 2 Ground Investigation Report

TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 11110

OUR REF. NO. 11110-SI-002

DATE: JULY 2026

ADS Consult
107 Mere Grange Business Park,
Leaside,
St Helens,
WA9 5GG
Phone: +44 (0) 151 541 4000

www.adsstructural.com

QUALITY CONTROL

Issue/revision	Issue	
Remarks		
Date	29/07/26	
Prepared by	Abubakar Ali BSc.	
Signature		
Checked by	D. Johnson BSc (Hons) MSc (Eng) FGS	
Signature		
Authorised by	A. Moore BSc. MSc. FGS CGeol. MICE CEng. SiLC QP SQP	
Signature		
Project number	11110	
Report number	11110-SI-002	
Comments		

CONTENTS

EXECUTIVE SUMMARY	1
1 INTRODUCTION	2
1.1 TERMS OF REFERENCE	2
1.2 SCOPE AND OBJECTIVES	2
1.3 PROPOSED DEVELOPMENT	2
1.4 REFERENCES	2
1.5 LIMITATIONS	3
2 ENVIRONMENTAL REVIEW	4
2.1 THE SITE	4
2.2 SITE HISTORY	4
2.3 PUBLISHED GROUND CONDITIONS	4
2.4 HYDROGEOLOGY	5
2.5 PRELIMINARY CONCEPTUAL SITE MODEL	5
2.6 GEOLOGICAL HAZARDS AND INSTABILITY	5
3 ADS GROUND INVESTIGATION	6
3.1 APPROACH	6
3.2 DESIGN OF INVESTIGATION	6
3.3 FIELDWORK	6
3.4 LABORATORY TESTING	6
4 GROUND CONDITIONS AND MATERIALS PROPERTIES	8
4.1 ENCOUNTERED GROUND CONDITIONS SUMMARY	8
4.2 GROUNDWATER	8
4.3 GROUND GAS	9
4.4 VISUAL AND OLFACTORY EVIDENCE OF CONTAMINATION	11
4.5 UNDERGROUND STRUCTURES AND OBSTRUCTIONS	11
4.6 IN-SITU TESTING	11
5 ENVIRONMENTAL ASSESSMENT	12
5.1 INTRODUCTION	12
5.2 SOIL ANALYSIS RESULTS	12
5.3 WASTE ACCEPTANCE CRITERIA	12

6	UPDATED CONCEPTUAL SITE MODEL	13
7	ENGINEERING ASSESSMENT	14
7.1	GROUND CONDITIONS	14
7.2	MOISTURE CONTENT AND PLASTICITY	14
7.3	GEOTECHNICAL GROUND PARAMETERS	14
7.4	DESIGN CLASS FOR BURIED CONCRETE	15
7.5	FOUNDATIONS	15
7.6	MATERIAL REUSE	16
7.7	EXCAVATIONS, TRENCH SHORING & DEWATERING	16
8	CONCLUSIONS	17
8.1	GEO-ENVIRONMENTAL	17
8.2	GEOTECHNICAL	17

FIGURES

Figure A.1	Site Location Plan	
Figure A.2	Site Boundary Plan	
Figure A.3	Site Development Plan	
Figure A.4	Site Investigation Plan	
Drawing A094359-81-C-JK001-P3	Indicative Japanese Knotweed Encapsulation Works by WYG dated 31 08 16	

TABLES

Table 2-1	Potential Ground Stability Hazards (within 50m of the Site)	5
Table 4-1	Summary of Ground Encountered	8
Table 4-2	Groundwater Monitoring	8
Table 4-3	Ground Gas Monitoring Summary	9
Table 5-1	Summary of WAC Test Results	12
Table 6-1	Conceptual Site Model	13
Table 7-1	Summary of Geotechnical Parameters	14
Table 7-2	Source Information	15
Table 7-3	Summary of SD1 Suite Analysis	15

APPENDICES

APPENDIX A	FIGURES
APPENDIX B	EXPLORATORY HOLE LOGS
APPENDIX C	CHEMICAL TEST RESULTS
APPENDIX D	GEOTECHNICAL TEST RESULTS
APPENDIX E	GENERIC ASSESSMENT CRITERIA

EXECUTIVE SUMMARY

Site Details	The Site is an 'L' shaped parcel of disused land located to the West of Alchemy Way, Knowsley. The Site has an approximate area of 3.54 hectares (ha) and is at National Grid Reference (NGR) SJ 42541 97039.
Development	The Site is proposed to be developed into two commercial units.
Fieldwork	A ground investigation was conducted between 6TH and 13th May 2026 comprising of: 5 No. window sampling boreholes (WS01-WS05) up to a maximum depth of 5.45m bgl. All 5 were installed for dual purpose groundwater and ground gas monitoring. 7 No. trial pits (TP01 to TP07) to a maximum depth of 3.10m bgl in the site area. 2 No. trial pits (TP08 and TP09) to a maximum depth of 2.20m bgl in the northern bund.
Ground Conditions	Made Ground was encountered at all locations comprising of sandy gravelly silty clays to depths between depths of 1.80m and 2.80m bgl. over Devensian Till. A thin organic rich soil layer was encountered in one location at the base of Made Ground. The 2022 investigation at the site also encountered organic soils. They are suspected to be a thin relict topsoil across the site which thickens/deepens locally associated with historical watercourses that flowed across the site prior to upfilling. Bedrock is below the Devensian Till, it comprises of very weak completely weathered Chester Formation Sandstone and was encountered at depths between 2.20m and 5.00m bgl.
Groundwater	Groundwater was limited to isolated perched bodies, mainly associated with potential buried pond/stream features.
Geoenvironmental Lab Testing	Fourteen samples of Made Ground and natural strata were submitted to a UKAS/MCERTS accredited laboratory and analysed. No elevated contaminants were encountered when assessing laboratory testing results against a Generic Assessment Criteria of an industrial end use.
Material Properties	Cohesive strata in the Devensian Till beneath the site indicates clays of low to medium plasticity.
Geoenvironmental Assessment	The chemical analysis has identified no exceedances of heavy metals or PAHs when compared to the GACs for a commercial end-use. Therefore, no remediation to protect the environment is necessary and the soils encountered in this investigation will be suitable for re-use across the site. The site is not considered to pose a risk to controlled waters. Historical and recent ADS ground gas monitoring indicate that it is appropriate for the site to be classified as Characteristic Situation 2. Gas precautions are required to the proposed buildings. Adoption of a watching brief for unexpected contamination during enabling works is recommended and during groundworks standard, suitable personal protective equipment (PPE) should be adopted. Standard PE/PVC water pipes should be sufficient for the site, subject to approval from the utility provider. Remediation mitigation will be required in the form of protection to future site users by installation of cover soils in areas of landscaping to the final development.
Engineering Assessment	Devensian Till and Chester Formation may form suitable bearing strata for deepened conventional foundations (i.e. trench or pad) and represent the most viable solution of this site. It is recommended that foundations be taken down through the Made Ground, to be based wholly within the Devensian Till. Ground bearing slabs are unlikely to be suitable without the use of the ground improvement. If depths to suitable formation are considered too deep or proposed structural loads are high, ground improvement could be utilised to densify shallow soils beneath proposed structures in order to achieve suitable allowable bearing pressures and reduce the potential for differential settlement. Ground improvement options may include Vibro Stone Columns (VSCs), Vibro Concrete Columns (VCCs), rigid inclusions, dynamic compaction using a dynamic roller, or soil mixing. A specialist contractor should be consulted due to the localised presence of organic soils which may preclude the use of vibro columns.

1 INTRODUCTION

1.1 TERMS OF REFERENCE

ADS Consult (ADS) was instructed by Network Space Ltd (the Client) to provide Phase 2 Site Investigation Report for the Site referred to as Parcel 1, Land off Alchemy Way, Knowsley L33 7AQ.

A Site Location Plan and Site Boundary is presented as Figure A.1 and A.2 (Appendix A).

1.2 SCOPE AND OBJECTIVES

The client's specific requirements were to undertake a Phase II Site Appraisal. The report presents the following information:

- Details of the ground investigation undertaken by ADS and the ground conditions encountered.
- Details and results of the geotechnical testing and contamination analysis.
- Recommendations for mitigating constraints to the proposed development where appropriate and providing preliminary parameters for foundation design.

Where applicable, the fieldwork was undertaken in accordance with BS5930:2015+A1:2020 Code of Practice for Ground Investigations and BS10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.

1.3 PROPOSED DEVELOPMENT

The site is proposed to be developed as two industrial units adjacent to the existing units that form Element Business Park.

The current proposed planning layout is presented as Figure A.3 (Appendix A).

1.4 REFERENCES

The following report is relevant to this report:

- Phase 1 Preliminary Risk Assessment for Parcel 1, Alchemy, Knowsley prepared by ADS Consult on behalf of Network Space Limited reference 11110-DTS-001, dated June 2026.

Historical reports are available with respect to ground conditions at the site and are as follows;

- Phase 1 Geo-Environmental Desk Top Study for Land at Alchemy Knowsley, prepared by WYG on behalf of Network Space Limited, reference A094359, dated June 2016.
- Phase 2 Geo-Environmental and Geotechnical Report for Land at Alchemy Way, Knowsley Industrial Park, Kirby, L33 7AQ, prepared by RPS on behalf of Network Space Limited, reference JER9563, dated October 2022.

1.5 LIMITATIONS

This report is addressed to and may be relied up on by Network Space Limited.

This document has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of ADS.

ADS neither owes nor accepts any duty to any third party and shall not be liable for any loss, damage or expense of whatsoever nature which is caused by their reliance on the information contained in this report.

The findings and opinions in this report are based upon information derived from a variety of information sources. ADS has endeavoured to assess all information provided and believe these information sources to be reliable.

This document is not a standalone document and should be read in conjunction with other Works Information and Contract Data.

2 ENVIRONMENTAL REVIEW

2.1 THE SITE

The Site is located to the West of Alchemy Way, Knowsley which is accessible via the East Lancashire Road (A580). It comprises an 'L' shaped parcel of disused land to the North of the existing Mercedes Benz dealership. The Site has an approximate area of 3.54 hectares (ha) and is at National Grid Reference (NGR) SJ 42541 97039 as shown on Figure A.1 and Figure A.2 (Appendix A).

2.2 SITE HISTORY

According to historical maps from 1892 to 1893 the Site is shown to originally comprise farmland with two streams running across the site flowing Southwest. In 1907, there appears to be a garden/enclosed space in the Southwest corner. From 1907 to 1959 there are limited changes on site, however the East Lancashire Road (A580) was constructed 50m South of the site. The 1959-1960 map shows indications of a bund along the Eastern boundary and cut down to site level at the Northern site boundary. Industrial factories are also constructed around the Site. In 1966 the garden and stream are no longer present. From 1966 to 2025 there was no significant change with some possibility of the Site being utilised as a sports ground. During that timeframe Alchemy Way and Platinum court were constructed as well as increased development of surrounding areas before finally the current Industrial Units were erected.

Aerial photographs available since 21/07/2000 indicate the site was initially open space with grass/shrubs/trees. This extends south to the East Lancs Road, north and west to a factory site. A sports pitch is present to the southeast. By 11/06/2015 Alchemy Way is present along the eastern site boundary with commercial development beyond. The current commercial development is shown to the south of the site by 18/10/2022. The site area appears disturbed with earthworks plant tracking. There are no significant changes to the most recent photograph dated 20/05/23.

2.3 PUBLISHED GROUND CONDITIONS

The BGS Geology of Britain Viewer, Groundsure and BGS Geology Mapping of Bedrock and Superficial Deposits (1:50,000 Runcorn Sheet 97) indicate the site to have superficial deposits of Devensian Diamicton Till comprising silts and clays, underlain by bedrock of the Chester Formation comprising mudstones and red sandstones.

In 2022 RPS completed a site investigation which comprised of 4 no. window samples (WS04 – WS07), 2 no. cable percussion boreholes (CP03-04) and 6 no. trial pits (TP04-09). A summary of the ground conditions encountered is as follows:

- Made Ground to depths of between 1.20m and >3.80m bgl.
- At the base of the Made Ground was a black organic rich deposit depths of 1.45m to 3.1m bgl (25.9m to 24.73 m AOD) and at a thickness of between 0.10 and 0.30m. The locations where this was encountered are in similar locations to the former streams and ponds shown on historical plans on site. Thin organic rich soils may also represent a former topsoil between these water features and on which the Made Ground may have been placed during upfilling.
- The Chester Formation was encountered underlying the sediment deposits/Made Ground at depths between 1.65m and 3.20m bgl (25.78m to 24.63 m AOD).
- Groundwater was encountered during drilling within the Chester Formation between 3.60m and 9.00m bgl. Shallow groundwater was encountered within trial pits between 1.10m and 1.90m bgl.

- No visual or olfactory evidence of contamination was observed.
- No contaminants of concern were recorded at concentrations above their respective assessment criteria within the soil samples collected from either Made Ground or natural strata.
- Asbestos was identified as free fibres within three of the 25 samples of Made Ground submitted for screening. One positive identification was detected within the Made Ground sample taken from CP03 (0.50m bgl). Asbestos quantification analysis undertaken on the sample did not identify asbestos above the limit of detection (0.001%).
- Marginal exceedances of the assessment criteria for groundwater have been detected for Nickel in WS04 and Fluoranthene in CP04.

2.4 HYDROGEOLOGY

On-line Environment Agency (EA) maps show the Site is located over the following aquifer designations:

- Secondary Undifferentiated – Devensian Diamicton Till
- Principal – Chester Formation Sandstone

The site is located within a total catchment Zone 3 Source Protection Zone.

According to the environmental database, there are 7 active groundwater abstraction licences within 2000m, most locally 1320m East.

2.5 PRELIMINARY CONCEPTUAL SITE MODEL

The potential sources of contamination identified in the Preliminary Conceptual Site Model is summarised as:

- Made Ground potentially including demolition material.
- Potential asbestos and asbestos containing materials within the shallow ground.
- Unlikely local spillages of oils/fuels associated with machinery on the site.

2.6 GEOLOGICAL HAZARDS AND INSTABILITY

Historical coal mining extraction has not been identified locally and under the site. No natural cavities or solution features are identified on-Site or within 50m of the Site.

Table 2-1 – Potential Ground Stability Hazards (within 50m of the Site)

Hazard	Risk on-Site
Clay shrinkage/swelling	Very Low
Collapsible ground	Very Low
Compressible ground	Very Low
Ground dissolution	Negligible
Landslide	Very low
Running sand	Very low

The database entries indicate that there is a very low potential for the Site to be affected by ground instability due to naturally occurring geological conditions.

3 ADS GROUND INVESTIGATION

3.1 APPROACH

The intrusive investigation was undertaken in general accordance with Eurocode 7, the Code of Practice for Ground Investigation BS 5930 (2015+A1:2020) and the Code of Practice for the Investigation of Potentially Contaminated Sites BS 10175 (2011+A2:2017).

The objectives of the investigation are to characterise the ground conditions, potential hazard sources, pathways and receptors and to reduce uncertainties associated with the proposed redevelopment.

3.2 DESIGN OF INVESTIGATION

Investigation locations were selected to provide general coverage of the proposed development area and the following locations were targeted :

- TP103 - historical pond.
- TP105 - historical route of a stream.
- TP108 and TP109 - the contents of the bund to the North of the site.

The remaining intrusive positions were intended to give a representative spread of the Site.

3.3 FIELDWORK

Intrusive ground investigation works were undertaken on the 6th May 2026 (Window Samples) and on the 13th May 2026 (Trial Pits) and comprised of:

- 6 No. window sampling boreholes (WS101, 101A-WS105) up to a maximum depth of 5.45m bgl. All 5 no. were installed for groundwater and ground gas monitoring.
- 7 No. trial pits (TP101 to TP107) to a maximum depth of 3.10m bgl in the site area.
- 2 No. trial pits (TP108 and TP109) to a maximum depth of 2.20m bgl in the northern bund materials.

The investigation locations are presented in Figure A.4 (Appendix A).

All locations were scanned using a Cable Avoidance Tool for the potential presence of services prior to drilling. The exploratory borehole logs are presented in Appendix B.

3.4 LABORATORY TESTING

For chemical laboratory analysis 14 samples of Made Ground and natural strata were submitted to a UKAS/MCERTS accredited laboratory and analysed for a broad suite of determinands listed below.

- Asbestos (screen), and quantification if detected.
- pH
- Metals (arsenic, cadmium, chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium and zinc).
- Speciated polycyclic aromatic hydrocarbons (PAH).
- Speciated total petroleum hydrocarbons (TPH CWG) including benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl tert-butyl ether (MTBE).
- Water soluble sulphates.

In addition, for Waste Acceptance Classification (WAC) designation of the northern bund materials for likely landfill disposal, 2 No. representative soil samples were scheduled.

The results are presented in Appendix C.

For geotechnical purposes, 2 no. representative soil samples were scheduled for:

- Natural moisture content and plasticity index.
- pH and Sulphate Tests.

The results are presented in Appendix D and are discussed further in Section 4.

4 GROUND CONDITIONS AND MATERIALS PROPERTIES

The interpretation of the ground conditions has been based on the findings of the ADS ground investigation conducted in May 2026 and previous site investigation borehole records.

4.1 ENCOUNTERED GROUND CONDITIONS SUMMARY

The strata encountered in the investigation were generally consistent with the anticipated geology identified in the Phase 1 Desk Study report and comprise of two types of Made Ground with occasional black, organic rich, relic topsoil layers, overlying Devensian Diamicton Till (sandy gravelly silty clays). Bedrock was shown to be a red sandstone, not encountered in any trial pits, but consistently found in all boreholes and very weak. Table 4-1 presents a summary of the geological strata encountered.

Detailed logs of the strata encountered, together with records of the samples taken and standpipe installations are provided in Appendix B.

Table 4-1 – Summary of Ground Encountered

Strata	Thickness range m bgl (average)	Typical description
Made Ground 1	0-0.6	MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete.
Made Ground 2	0.8-2.3	MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete. Soft and with increased water present in WS103 and TP105 (possible Stream) and WS101A and TP103 (possible infilled pond)
Devensian Diamicton Till	0.3-2.3	Firm to stiff reddish brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone.
Chester Formation Sandstone	>0.45	Bedrock was initially encountered as heavily weathered very weak red SANDSTONE.

Trial holes TP108 and 109 were excavated into the northern bund and indicate a firm dark brown mottled black gravelly sandy clay with some thin roots. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete.

4.2 GROUNDWATER

Groundwater was not encountered within the window sampling boreholes during drilling. Window Sample boreholes were installed to allow for groundwater monitoring. Subsequent monitoring results are summarised as:

Table 4-2 – Groundwater Monitoring

	CP03	CP04	WS05	WS06	WS07	WS101A	WS102	WS103	WS104	WS105
15/05/26	1.08	1.85	0.92	2.65	1.08	1.87	0.45	2.25	0.53	1.72
01/06/26	1.12	1.85	0.94	2.64	1.21	1.78	0.48	2.30	0.61	1.75

15/06/26	1.13	1.80	0.97	2.55	1.32	1.67	0.54	2.29	0.68	1.71
06/07/26	1.21	1.83	1.02	2.74	1.47	1.77	0.72	2.66	0.69	1.85

Locations CP03, CP04, WS05, WS06 and WS07 were part of the previous RPS Site investigation and since the install pipes were intact they were monitored for groundwater.

4.3 GROUND GAS

Window Sample boreholes were installed to allow for ground gas monitoring on four occasions.

Table 4-3 – Ground Gas Monitoring Summary

Date	Exploratory Hole	Atmospheric Pressure mbar	Steady CH ₄ Concentration (% v/v)	Steady CO ₂ Concentration (% v/v)	Steady O ₂ Concentration (% v/v)	PID (ppm)	Flow Rate (L/Hr)
15/05/26	WS05	1008 (rising)	0.0	19.8	0.9	1.0	0.0
	WS06		0.0	18.2	1.9	1.0	0.0
	WS07		0.0	20.5	0.3	1.0	0.0
	WS101A		0.0	18.8	2.0	1.0	0.0
	WS102		0.0	20.6	0.0	1.0	0.0
	WS103		0.0	19.7	0.9	1.0	0.0
	WS104		0.0	20.6	0.0	1.0	0.0
	WS105		17.9	9.9	3.2	1.0	0.0
01/06/26	WS01	1008 (falling)	0.0	19.8	1.0	1.0	0.0
	WS02		0.0	17.8	2.2	1.0	0.0
	WS03		0.0	20.5	0.4	1.0	0.0
	WS04		0.0	19.0	2.0	1.0	0.0
	WS102		0.0	20.6	0.0	1.0	0.0
	WS103		0.0	19.5	1.0	1.0	0.0
	WS104		0.0	20.7	0.0	1.0	0.0
	WS105		17.5	10.3	3.0	1.0	0.0
15/06/26	WS01	1013 (falling)	0.0	19.7	1.1	1.0	0.0
	WS02		0.0	16.9	2.5	1.0	0.0
	WS03		0.0	20.3	0.4	1.0	0.0

	WS04		0.0	19.6	1.9	1.0	0.0
	WS102		0.0	20.7	0.0	1.0	0.0
	WS103		0.0	18.7	1.2	1.0	0.0
	WS104		0.0	20.7	0.0	1.0	0.0
	WS105		16.8	11.0	3.2	1.0	0.0
06/07/26	WS01	1017 (falling)	0.0	19.9	1.1	1.0	0.0
	WS02		0.0	17.4	2.6	1.0	0.0
	WS03		0.0	20.5	0.3	1.0	0.0
	WS04		0.0	20.0	2.2	1.0	0.0
	WS102		0.0	20.7	0.0	1.0	0.0
	WS103		0.0	18.7	0.9	1.0	0.0
	WS104		0.0	20.7	0.0	1.0	0.0
	WS105		15.6	11.3	3.1	1.0	0.0

Between 15 August and 5 September 2022, RPS completed ground gas monitoring at six locations on three occasions under conditions of steady or rising atmospheric pressures. Significant concentrations of methane and carbon dioxide were recorded consistently throughout the monitoring. Locations WS05, WS06 and WS07 were available to monitor by ADS in 2026. RPS recommended further monitoring to be undertaken to determine the long-term gas generation at the site and to enable confirmation of the gas characterisation situation and design of the gas protection measures.

Four rounds of ground gas monitoring have been undertaken by ADS under conditions of steady or falling atmospheric pressures ranging between 1008 mbar and 1017mbar.

Methane was only detected in WS105 with a peak concentration during the first visit of 17.9%. Gas flow was not detected in any of the boreholes.

Carbon Dioxide was recorded at a peak of 3.2% in WS105 during the first and third visit.

Oxygen was as low as 9.9% in WS105 during the first visit. Oxygen levels ranged between 16.9% to 20.7% in the remaining boreholes.

The combined data set between 2022 and 2026 is seven monitoring occasions across a range of conditions. No gas significant gas generation has been detected but a CS classification of CS2 is deemed appropriated based upon elevated concentrations of carbon dioxide and methane readings in WS105.

4.4 VISUAL AND OLFACTORY EVIDENCE OF CONTAMINATION

Olfactory evidence of contamination was noted in TP102 and TP103 with a slight Hydrocarbon odour. Fragments of brick and concrete were encountered in the Made Ground of the window sampling boreholes and trial pits throughout the Site.

4.5 UNDERGROUND STRUCTURES AND OBSTRUCTIONS

A large concrete boulder was found in TP103 between 0.8m and 1.2m with a drainage pipe encased within the concrete.

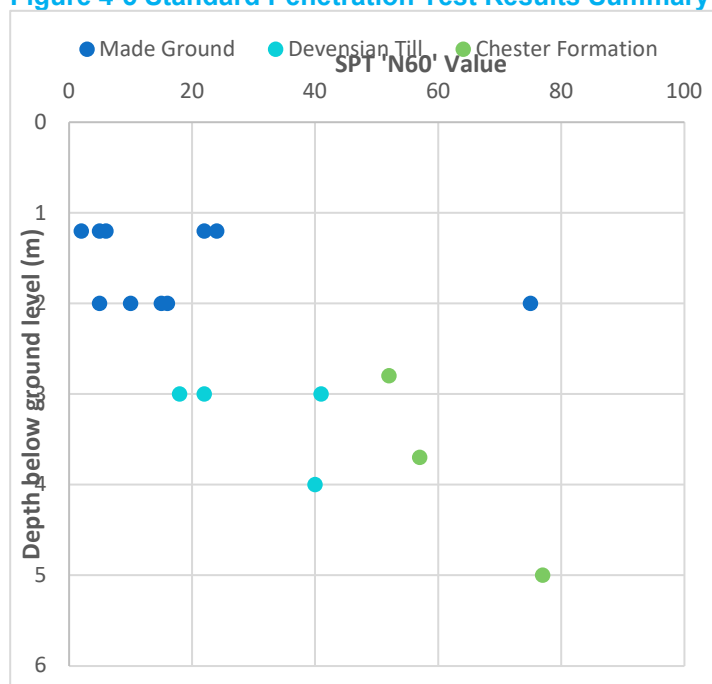
4.6 IN-SITU TESTING

Standard Penetration Tests (SPT's) were undertaken at regular intervals within the boreholes to provide 'N' values for empirical assessment of strength and density parameters. SPT tests are summarised in Table 4-4 and Figure 4-5 below.

Table 4-4 Summary of Standard Penetration Testing Results

Stratum / Geological Origin	Range of SPT 'N60' Values	Comments
Made Ground	2-24	SPT Testing indicates that the Made Ground is variable low to medium strength cohesive material.
Devensian Till	18-41	SPT Testing indicates that the Devensian Till is medium to high strength.
Chester Formation	52-77	SPT Testing indicates that the weathered Chester Formation is likely to be dense to very dense sands/weak rock in the completely weathered horizon.

Figure 4-5 Standard Penetration Test Results Summary



5 ENVIRONMENTAL ASSESSMENT

5.1 INTRODUCTION

The approach to the human health risk assessment reported here follows the principles given in the Land Contamination Risk Management (LCRM) Guidance, i.e. application of the following assessment hierarchy:

- Tier 1 risk screening by establishment of potential pollutant linkages, i.e. the preliminary conceptual site model (PCSM), or
- Tier 2 generic quantitative assessment using generic assessment criteria (GACs) that represent 'acceptably low' risk, or
- Tier 3 quantitative risk assessment using site specific assessment criteria (SSACs) that represent 'unacceptable risk', or where generic assessment criteria are not available, or they are not applicable to the CSM.

The results of laboratory analysis will be screened against GACs including the Defra Category 4 Screening Levels (C4SL) and LQM and CIEH S4ULs for Human Health Risk Assessment are provided in Appendix E.

5.2 SOIL ANALYSIS RESULTS

Fourteen Made Ground samples were submitted to an accredited laboratory for testing. A comparison of the soil concentrations to the selected GAC (Appendix F) has identified no GAC exceedance for a commercial end use.

Asbestos was detected in the one sample out of eleven samples screened and chrysotile is described as being present in bitumen.

5.3 WASTE ACCEPTANCE CRITERIA

ADS undertook WAC testing on two samples of site materials which are likely to require disposal to landfill, with the samples taken across the Northern Bund from depths within the lower 1.5m. The table below summarises the results, which are presented in Appendix C.

Table 5-1 – Summary of WAC Test Results

Exploratory Hole Location	Depth (m)	Comment	WAC Limit
TP108	1.00	-	Inert Waste Landfill
TP109	1.00	-	Inert Waste Landfill

It is understood that materials deposited in the bund encapsulate soil and Japanese Knotweed Rhizomes as shown in the Indicative Japanese Knotweed Encapsulation Works Drawing. Full consideration of this should be made before determining if materials in the bund are either to be reused on site or disposed of to landfill.

6 UPDATED CONCEPTUAL SITE MODEL

An Updated conceptual site model is presented below based on previous reports and the site investigation information.

Table 6-1 –Conceptual Site Model

Source	Receptor	Potential Exposure Route	Risk Rating	Current Status and mitigation
Made Ground potentially including demolition material.	Future Site Users	Direct ingestion of soil & dust, inhalation of gas/vapours and dermal contact.	Low	Made Ground proven across the site. No elevated contaminant concentrations above GAC for a commercial end use. Devensian Till present as clay so low permeability. Future development to comprise mainly hard standing or building cover.
	Construction Workers	Direct ingestion of soil & dust, inhalation of gas/vapours and dermal contact.	Low	Potential risks can be mitigated through use of PPE and control measures.
	Off-site users	Lateral migration of contaminants then direct ingestion of soil & dust, inhalation of particulates & gas/vapours and dermal contact.	Low	No elevated contaminant concentrations above GAC for commercial end use. Future development to comprise mainly hard standing or building cover.
	Secondary Undifferentiated Aquifer – Devensian Till	Lateral/vertical migration of contaminants within groundwater.	Low	Devensian Till present as clay so low permeability. Future development to comprise mainly hard standing or building cover. There is no active groundwater abstraction within 500m.
	Principal Aquifer - Chester Formation	Vertical and horizontal migration of contaminants within groundwater.	Low	Overlying Devensian Till present as clay so low permeability. Future development to comprise mainly hard standing or building cover. No active groundwater abstractions within 1000m.
	Future buildings and structures	Accumulation/migration of gases within building space. Aggressive attack of building materials	Moderate /Low	Made Ground proven across the site with gas production potential. Measured concentrations indicate CS2 protection measures appropriate for buildings.

7 ENGINEERING ASSESSMENT

This section provides a preliminary engineering assessment of the relevant geotechnical parameters that will inform the design of the foundations of the development.

7.1 GROUND CONDITIONS

Made Ground was encountered at all locations ranging in thickness from 2.2m to 2.7m thick (WS105) as determined from Window sample boreholes. Two trial pits (TP105 and TP103) could not determine the thickness due to instability and perched water. In Trial Pits, Made Ground where fully penetrated was between 1.8m to 2.8m (TP107).

The Made Ground is cohesive in nature and locally overlies organic rich sediments potentially related with shallow historical water features within the site such as the channel of a stream (northern area at TP105) or a ponded area (south west corner at TP103). The Made Ground/organic deposits are underlain by Devensian Till comprising of sandy gravelly silty clays. Bedrock was encountered between 2.20m and 5.00m bgl and comprised of reddish-brown sands and completely weathered Sandstone.

7.2 MOISTURE CONTENT AND PLASTICITY

Two samples of cohesive material from Devensian Till deposits were taken for moisture content and plasticity index determinations. Atterberg limit tests on the cohesive clays indicate cohesive strata of low to medium plasticity. The modified Plasticity Index values of 14% and 20% indicates that these samples have a moderate volume change potential. The natural moisture content of these samples ranged from 12.3% and 13%. Results of these tests are presented in Appendix D.

7.3 GEOTECHNICAL GROUND PARAMETERS

Ground parameters presented below are based on information gathered from the ground investigation. The parameters represent a conservative estimate based upon the information gathered by ADS and should be read in conjunction with other associated reports for the wider site.

Table 7-1 – Summary of Geotechnical Parameters

Strata	Bulk Unit Weight, γ bulk (kN/m ³)	Undrained Shear Strength (Su)	Angle of Shear Resistance, ϕ (°)	SPT N ₆₀ Value
Cohesive Made Ground	18.0	-	-	2-22
Devensian Till	19.0	-	-	18-41
Chester Formation Sandstone	19.5	-	-	52-77

Parameters presented above are derived in accordance with rationale presented in Table 4-5 below.

Table 7-2 – Source Information

Parameter	Rationale
Unit Weight, γ (kN/m ³)	Figure 1 & 2, BS 8002: 2015
Angle of Shear Resistance, ϕ (°)	Section 4.3.1.3.5 and/or Table 2 BS 8002: 2015 Stroud's SPT Correlation
Undrained Shear Strength (Su)	Stroud $c_u = F_1 \times N_{60}$

7.4 DESIGN CLASS FOR BURIED CONCRETE

An assessment of the chemical testing of the Made Ground was carried out in accordance with BRE Special Digest 1 (2005). The water-soluble sulphate value and characteristic pH value for the natural strata analysed is summarised in Table 7-1 below:

Table 7-3 – Summary of SD1 Suite Analysis

Stratum / Geological Origin	Characteristic Water-Soluble Sulphate Value (mg/l SO ₄)	Characteristic pH Value
Made Ground	39-1300	7.5-8.0
Devensian Till	43.8	8.4
Devensian Till	19.4	8.6

From the results of the testing the Made Ground and Devensian Till can be assigned Design Sulphate Class DS-2 and ACEC Classification of AC-2.

7.5 FOUNDATIONS

It is considered that conventional foundations (i.e. trench fill or pad) represent the most viable solution of this site. It is recommended that foundations be taken down through the Made Ground, to be based wholly within the firm to stiff Devensian Till, however there is variability to the depth of the strata. The top of Till deposits are between 1.80m and 2.80m deep and locally deeper where historical water channels or ponds have been encountered.

Should the depth to top of Till be determined as too deep for shallow foundations, or if structural loads are high, ground improvement could be utilised to densify shallow soils beneath proposed structures in order to achieve suitable allowable bearing pressures and reduce the potential for differential settlement beneath traditional foundations and ground bearing floor slabs. Suggested ground improvement options may include Vibro Stone Columns (VSCs), Vibro Concrete Columns (VCCs), rigid inclusions, dynamic compaction using a dynamic roller, or soil mixing.

A specialist contractor should be consulted due to the localised presence of organic soil layers which may preclude the use of vibro columns.

7.6 MATERIAL REUSE

Based on the findings presented within this report, it is anticipated that Made Ground across the site is predominantly suitable for retention/re-use with respect to the proposed end uses.

Reuse of materials should be undertaken in accordance with the CL:AIRE Definition of Waste: Development Industry Code of Practice (DoWCoP), 2011 for the potential reuse of material under a Material Management Plan (MMP) or, if <1000 tonnes a waste management licensing exemption (U1) can be registered. Should ACM be encountered it should be removed from the soils to be reused under the relevant parts of the Control of the Asbestos Regulations 2012.

7.7 EXCAVATIONS, TRENCH SHORING & DEWATERING

Temporary excavations in the Made Ground are likely to remain stable for short periods of time but some form of temporary support or battering back to a safe angle is likely to be required where an excavation is to be left open for any length of time. All trenches should be excavated in accordance with CIRIA Report 97 'Trenching Practice'.

Shallow groundwater was encountered in the centre of the site during ground investigation as well as extensive surface water to the East of the site so dewatering measures are likely to be required should earthworks be considered necessary as part of the proposed development.

Should groundwater or seepages occur, it is considered that dewatering measures (such as provision of a sump and pump type water control system) are likely to be sufficient.

8 CONCLUSIONS

8.1 GEO-ENVIRONMENTAL

The chemical analysis has identified no exceedances of heavy metals or PAHs when compared to the GACs for a commercial end-use. Therefore, no remediation to protect the environment is considered to be necessary and the soils encountered in this investigation will be suitable for re-use across the site.

Historical and recent ADS ground gas monitoring indicate that it is appropriate for the site to be classified as Characteristic Situation 2 and subsequently gas precautions are required to the proposed buildings. Radon precautions are not required.

Specific remediation to protect construction workers is not required. However, adoption of a watching brief for unexpected contamination during enabling works is recommended and standard, suitable personal protective equipment (PPE) in line with the ground workers risk assessment should be adopted.

The site is not considered to pose a risk to controlled waters. Therefore, no remedial action is recommended.

Standard PE/PVC water pipes should be sufficient for the site, subject to approval from the utility provider.

Remediation mitigation will be required in the form of protection to future site users by installation of cover soils in areas of landscaping to the final development.

8.2 GEOTECHNICAL

Made Ground was encountered at all locations comprising of sandy gravelly silty clays to depths between depths of 1.80m and 2.80m bgl. over Devensian Till. ADS has encountered a thin organic rich soil layer in one location and it is known that the 2022 investigation also encountered organic soils. They are suspected to be a thin relict topsoil which thickens locally associated with historical watercourses that flowed across the site prior to upfilling.

Bedrock is determined below the Devensian Till, it comprised of very weak completely weathered Chester Formation Sandstone and was encountered at depths between 2.20m and 5.00m bgl.

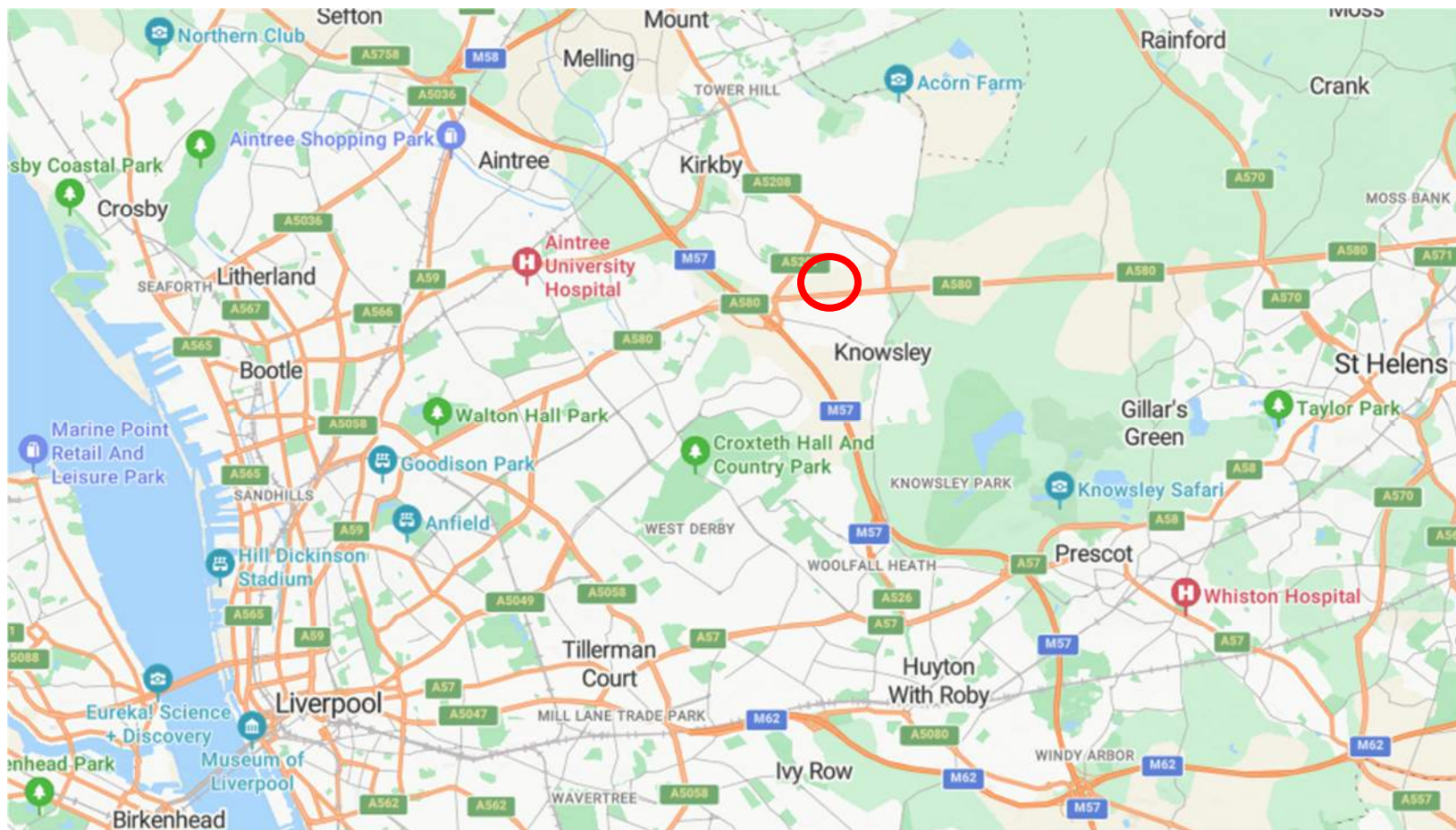
Based on current proposals it is considered that shallow traditional foundations may be suitable where firm to stiff clay is present at shallow depths. Foundations should extend through any made ground and any soft or loose soils natural soils to bear a minimum of 200mm into the underlying firm to stiff cohesive natural Till soils. Alternatively, if the depth to competent Till is determined as too deep or proposed loadings of the structures are high, then ground improvement and/or piles will be appropriate. Discussions should be completed with specialist contractors to ensure that the organic rich soil layers do not make some solutions unviable.

Due to the presence of Made Ground and cohesive Till deposits soakaways are not considered appropriate, unless in the sandstone (present >2.2m bgl) have low viability.

Buried concrete should be designed in accordance with designation class of DS-2 and ACEC class of AC-2.

Appendix A

FIGURES



Key



Development Boundary



ADS Consult
107 Mere Grange Business Park
Leaside
St Helens
WA9 5GG
Tel: +44 (0) 203 823 2800

**Figure A.1
Site Location Plan**

Project:
Alchemy Way, Knowsley

Project No.:
11110

Client:
Network Space



Key



Development Boundary



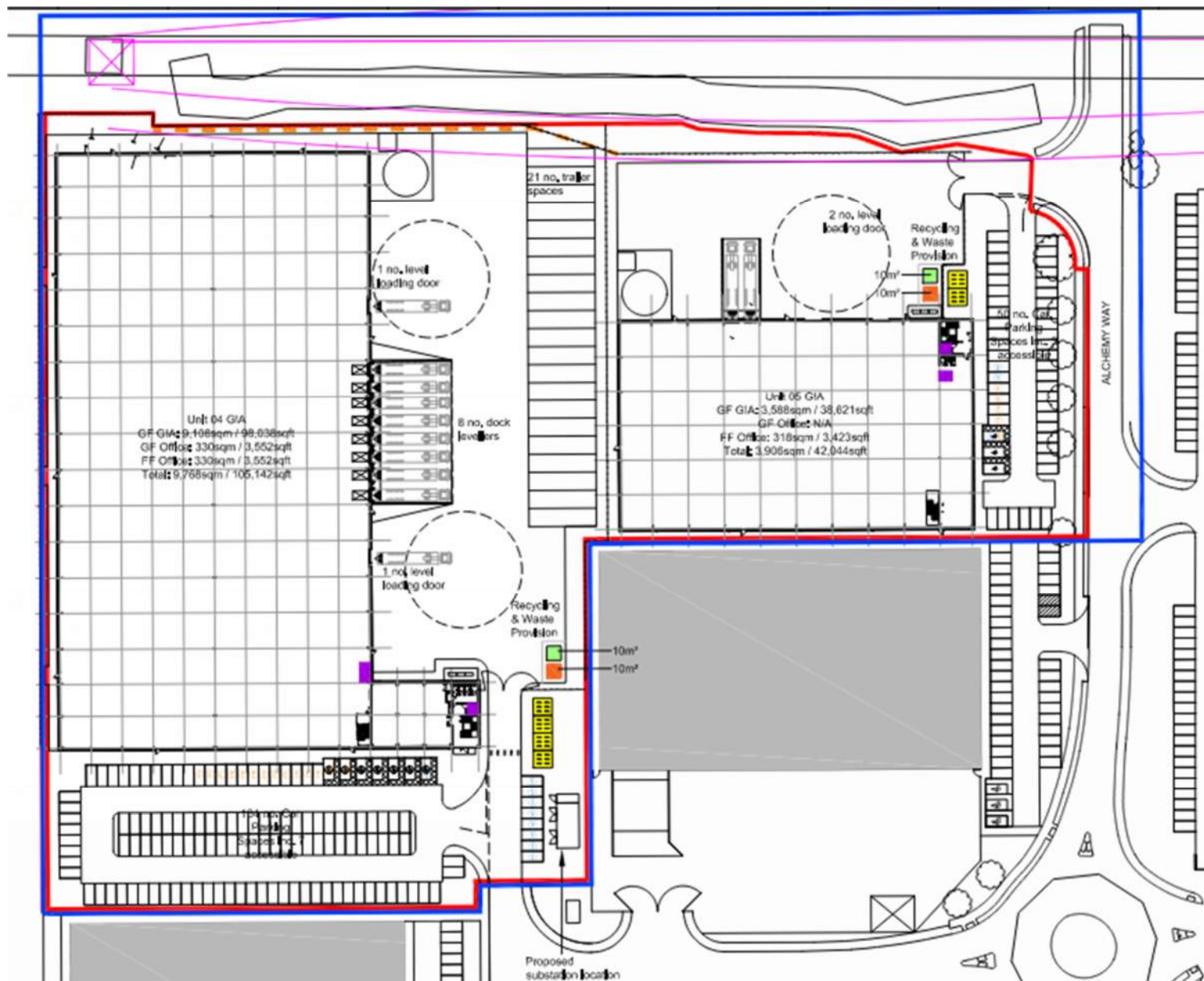
ADS Consult
107 Mere Grange Business Park
Leaside
St Helens
WA9 5GG
Tel: +44 (0) 203 823 2800

Figure A.2 Site Boundary Plan

Project:
Alchemy Way, Knowsley

Project No.:
11110

Client:
Network Space



Key



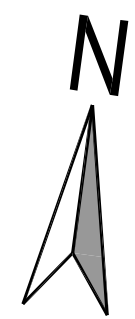
ADS Consult
 107 Mere Grange Business Park
 Leaside
 St Helens
 WA9 5GG
 Tel: +44 (0) 203 823 2800

Figure A.3
Site Development Plan

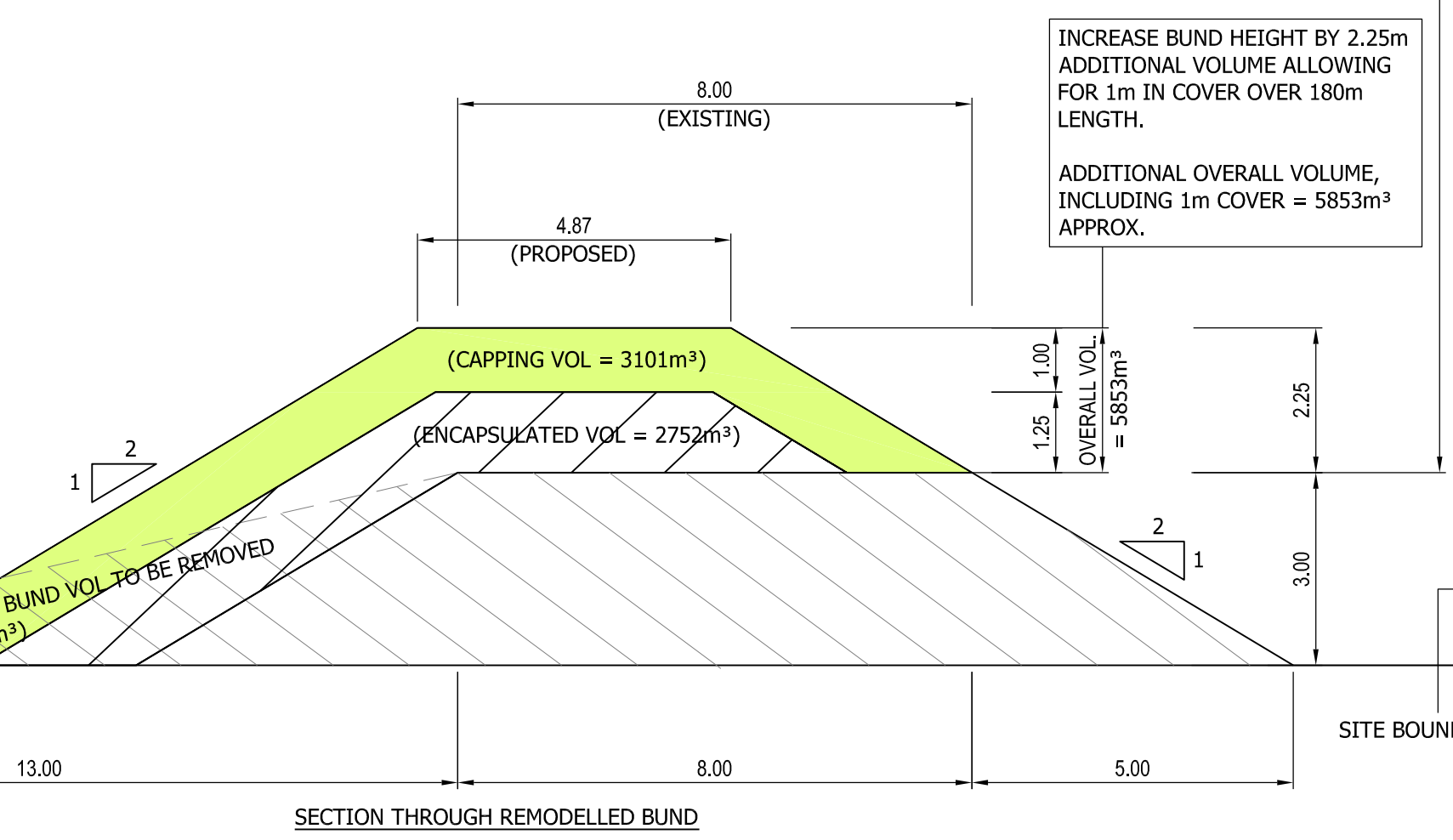
Project:
Alchemy Way, Knowsley

Project No.:
11110

Client:
Network Space



EXCESS BUNDING VOLUME TO BE REMOVED FROM EXISTING PROFILE
= 2158m³ APPROX.
VOLUME REQUIRED TO REPROFILE BUND = 3101m³ APPROX.
= 943m³ SHORTFALL, APPROX.



- NOTES:
- JAPANESE KNOTWEED ENCAPSULATION EARTHWORKS STRATEGY:**
1. REFER TO JAPANESE KNOTWEED SPECIALIST FOR TREATMENT, QUANTITY AND RELOCATION METHODOLOGY OF ARISINGS.
 2. THE ESTIMATED VOLUME OF ARISINGS FROM THE JAPANESE KNOTWEED ZONE IS 2500m³ (+/-10%).
 3. THE EXISTING BUND WHICH CONSISTS OF UNCLASSIFIED GENERAL FILL (ARISINGS) (U1A) IS TO BE UTILISED AS THE DEPOSIT AND ENCAPSULATION ZONE FOR JAPANESE KNOTWEED ARISINGS.
 4. THE EXISTING BUND IS LOCATED UNDER AN OVERHEAD ELECTRICITY TRANSMISSION LINE AND ANY WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH HSE G8.
 5. THE EXISTING BUND (SOUTH SIDE) IS TO BE REPLACED TO REDUCE THE EXTENT OF THE BATTER AS INDICATED ON DRAWING A094359/JK001.
 6. EXPOSED BUND FORMATION IS TO HAVE ALL VEGETATION REMOVED PRIOR TO PLACEMENT OF ARISINGS AND FILL.
 7. ARISINGS FROM THE JAPANESE KNOTWEED ZONE ARE TO BE TRANSPORTED AND PLACED IN ACCORDANCE WITH THE SPECIALISTS GUIDANCE AND SUPERVISION.
 8. ENCAPSULATION OF THE JAPANESE KNOTWEED ARISINGS IS TO BE CARRIED OUT TO THE DEFINED PROFILE WITH RECOVERED OR IMPORTED SELECTED/GENERAL FILL MATERIAL.
 9. ALL EARTHWORKS TO BE CARRIED OUT TO SERIES 600 SPECIFICATION FOR HIGHWAY WORKS (SHW), JAPANESE KNOTWEED SPECIALIST GUIDANCE AND SUPERVISION AND LANDSCAPE STRATEGY PROPOSALS.

FOR PLANNING PURPOSES ONLY

P3	ARCHITECTS LAYOUT REVISED, KNOTWEED AREA INDICATED	AK	APF	APF	31.08.16
P2	OPTION 2 ADDED	AK	APF	APF	17.06.16
P1	PRELIMINARY ISSUE	AK	APF	APF	15.06.16
REV	DESCRIPTION	BY	CHK	APP	DATE

QUAY WEST at MediaCity UK
TRAFFORD WHARF ROAD
TRAFFORD PARK
MANCHESTER
M17 1HH
TEL: +44 (0)161 872 3223
FAX: +44 (0)161 872 3193
e-mail: manchester@wyg.com



Project:
ALCHEMY
KNOWSLEY

Drawing Title:
INDICATIVE JAPANESE KNOTWEED
ENCAPSULATION WORKS

Scale @	A0	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	A.K.	A.K.	JUN 16	APF	JUN 16	APF	JUN 16
Project No.	A094359	Office	Type	Drawing No.	JK001	Revision	P3

Appendix B

EXPLORATORY HOLE LOGS

Key to exploratory hole symbols and abbreviations

SAMPLE TYPES

ACM - Asbestos sample	AMAL - Amalgamated sample	B - Bulk disturbed sample
BLK - Block sample	C - Core sample	CBR - CBR test sample
D - Disturbed sample	ES - Environmental sample	EW - Environmental water sample
G - Gas sample	J - Jar sample	L - Liner sample
TW - Pushed thin wall sample	U - Undisturbed sample	UT - Undisturbed thin wall sample
W - Water sample	T - Tub sample	JT - Jar and Tub sample

IN-SITU TESTS

HV - Hand shear vane	HV(r) - Hand shear vane residual	PID - Photo ionisation detector
PP - Hand penetrometer	SPT - Standard penetration test	SPT(C) - SPT using cone

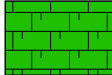
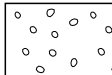
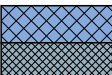
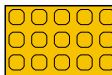
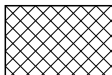
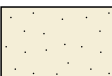
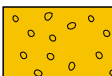
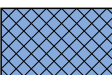
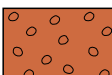
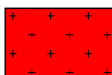
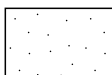
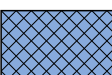
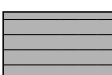
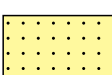
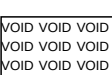
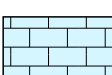
GROUNDWATER

 Groundwater strike	 Groundwater rest level
--	--

ROTARY CORE DETAILS

TCR - Total core recovery (%)	SCR - Solid core recovery (%)	RQD - Rock quality designation (%)
FI - Fracture index	NI - Non-intact core	AZCL - Assumed zone of core loss

LEGEND

 Topsoil	 Clay	 Chalk	 Sand backfill
 Peat	 Silt	 Breccia	 Gravel backfill
 Made ground [cohesive]	 Sand	 Conglomerate	 Arising
 Concrete	 Gravel	 Metamorphic	 Bentonite
 Wood	 Cobbles	 Igneous	 Concrete
 Brick	 Boulders		 Grout
 Bituminous material	 Mudstone		 Plain pipe
 Gypsum	 Siltstone		
 Coal	 Sandstone		 Slotted pipe
 Void	 Limestone		

	Window Sampler				WS101 SUPPLEMENTARY INFO	
	Hole Type WS	Easting 342462.00	Northing 397082.00	Ground Level (m)	Scale 1:35	
	Project Name Alchemy Way, Knowsley		Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	
Client Network Space Limited		Consultant Abubakar Ali		Contractor ADS Consult Ltd		
SPT - Details						
Top Depth (m) (Type)		Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results
1.20 (S)			Dry	DART282	69	N=21 (3,2/2,2,2,15)
Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m. Obstruction was found at 1.50m and borehole was moved to a new location (WS101A)				Method, Plant, Stability, Dimensions 0.00 - 1.50m WS Dart 282		
Checked By: AA Approved By: AEM				Logger AA		

ads: consult consulting engineers		Window Sampler				WS101A			
		Sheet 1 of 1							
		Hole Type WS	Easting 342470.00	Northing 397078.00	Ground Level (m)	Scale 1:35			
Project Name Alchemy Way, Knowsley		Project No. 11110		Start Date 2026-05-06		End Date 2026-05-06			
Client Network Space Limited		Consultant Abubakar Ali		Contractor ADS Consult Ltd					
Inst/ Backfill	Water Levels	Samples and Tests			Level	Depth	Strata		
		Depth (m)	Type/ Ref	Results	(m)	(m)	Legend	Description	
		0.20	ES 1			(0.40)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	
		0.50	ES 2			0.40		MADE GROUND: Soft to firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete	0.5
		1.50	ES 3			(1.80)		Black organic rich relic topsoil layer (1.60 - 1.70m)	1.0 1.5
		2.00	SPT	N=13 (3,4/3,4,3,3) N60=15		2.20			Stiff brown slightly gravelly slightly sandy CLAY. Gravel is subangular to rounded fine to coarse of sandstone. [Devensian Till]
		2.50	ES 4			(1.50)			
		3.00 3.00-3.70	SPT B 5	N=19 (4,4/4,5,5,5) N60=22		3.70			Very weak red SANDSTONE [Chester Formation]
		3.70	SPT	N=50 for 295mm (8,10/10,20,10,10 for 70mm) N60=57		(0.40)			
End of Borehole at 4.10m									

	Window Sampler				WS101A SUPPLEMENTARY INFO	
	Hole Type WS	Easting 342470.00	Northing 397078.00	Ground Level (m)	Scale 1:35	
	Project Name Alchemy Way, Knowsley		Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	
Client Network Space Limited		Consultant Abubakar Ali		Contractor ADS Consult Ltd		
SPT - Details						
Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results	
2.00 (S)		Dry	DART282	69	N=13 (3,4/3,4,3,3)	
3.00 (S)		Dry	DART282	69	N=19 (4,4/4,5,5,5)	
3.70 (S)		Dry	DART282	69	N=50 for 295mm (8,10/10,20,10,10 for 70mm)	
Sample Details						
Sample ID	Type	Water Level (m)	Remarks			
0.2	ES					
0.5	ES					
1.5	ES					
2.5	ES					
3.0-3.7	B					
Remarks			Method, Plant, Stability, Dimensions		Logger	
Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m			0.00 - 4.10m WS Dart 283		AA	
Checked By: AA Approved By: AEM						

Window Sampler

WS101A
PHOTO PAGE

Hole Type WS	Easting 342470.00	Northing 397078.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client
Network Space Limited

Consultant
Abubakar Ali

Contractor
ADS Consult Ltd



Remarks

Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m

Method, Plant, Stability, Dimensions

0.00 - 4.10m WS Dart 283

Logger

AA

Checked By: AA Approved By: AEM

SPT N60 = N(raw) * (Hammer Energy Ratio / 60) to nearest whole number

Created using Pebble Geo



Window Sampler

WS102
Sheet 1 of 1

Hole Type WS	Easting 342513.00	Northing 397025.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level	Depth (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			(m)	Legend	
		0.20	ES 6			(0.50)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	0.5
	0.50	ES 7			0.50	MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete			
	1.20	SPT	N=5 (2,1/2,1,1,1) N60=6		(1.80)			1.0	
	1.50	ES 8						1.5	
	2.00	SPT	N=14 (2,3/4,4,3,3) N60=16				2.0		
	2.50 2.50-2.80	ES 9 B 10			2.30		Firm to stiff brown slightly gravelly sandy CLAY. Gravel is subangular to rounded fine to coarse of sandstone. [Devensian Till]	2.5	
	2.80	SPT	N=45 (13,10/10,10,10,15) N60=52		(0.50)				
					2.80		Very weak red SANDSTONE [Chester Formation]	3.0	
					(0.45)				
					3.25			End of Borehole at 3.25m	3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 3.25m WS Dart 284	Logger AA
Checked By: AA Approved By: AEM		

	Window Sampler				WS102
					SUPPLEMENTARY INFO
	Hole Type WS	Easting 342513.00	Northing 397025.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley		Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	
Client Network Space Limited		Consultant Abubakar Ali	Contractor ADS Consult Ltd		
SPT - Details					
Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results
1.20 (S)		Dry	DART282	69	N=5 (2,1/2,1,1,1)
2.00 (S)		Dry	DART282	69	N=14 (2,3/4,4,3,3)
2.80 (S)		Dry	DART282	69	N=45 (13,10/10,10,10,15)
Sample Details					
Sample ID	Type	Water Level (m)	Remarks		
0.2	ES				
0.5	ES				
1.5	ES				
2.5	ES				
2.5-2.8	B				
Remarks			Method, Plant, Stability, Dimensions		Logger
Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m			0.00 - 3.25m WS Dart 284		AA
Checked By: AA Approved By: AEM					

Window Sampler

Hole Type WS	Easting 342513.00	Northing 397025.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 3.25m WS Dart 284	Logger AA
---	--	--------------

Checked By: AA Approved By: AEM

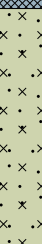
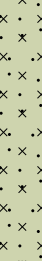


Window Sampler

WS103
Sheet 1 of 1

Hole Type WS	Easting 342472.00	Northing 396966.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata	
		Depth (m)	Type/ Ref	Results			Legend	Description
		0.20	ES 11	N=4 (3,1/1,1,1,1) N60=5		(0.40)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete
		0.50	ES 12			0.40		MADE GROUND: Soft to firm dark brown mottled black sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of various lithologies and brick.
		1.20	SPT			(2.30)		Black organic rich relic topsoil layer (1.50 - 1.60m)
		1.50	ES 13					
		2.00	SPT	N=9 (3,3/2,3,2,2) N60=10				
		2.80	ES 14	2.70			Reddish brown mottled light grey very sandy SILT. [Devensian Till]	
		3.00	SPT	N=16 (5,4/4,4,4,4) N60=18				
		3.00-4.00	B 15					
		4.00	SPT			(2.30)		Very weak red SANDSTONE [Chester Formation]
		5.00	SPT	N=50 for 225mm (8,10/17,16,17 for 75mm) N60=77		5.00		
						(0.45)		
						5.45		End of Borehole at 5.45m

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 5.45m WS Dart 285	Logger AA
	Checked By: AA Approved By: AEM	

	Window Sampler				WS103
					SUPPLEMENTARY INFO
	Hole Type WS	Easting 342472.00	Northing 396966.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley		Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	
Client Network Space Limited		Consultant Abubakar Ali	Contractor ADS Consult Ltd		
SPT - Details					
Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results
1.20 (S)		Dry	DART282	69	N=4 (3,1/1,1,1,1)
2.00 (S)		Dry	DART282	69	N=9 (3,3/2,3,2,2)
3.00 (S)		Dry	DART282	69	N=16 (5,4/4,4,4,4)
4.00 (S)		Dry	DART282	69	N=35 (6,5/5,10,10,10)
5.00 (S)		Dry	DART282	69	N=50 for 225mm (8,10/17,16,17 for 75mm)
Sample Details					
Sample ID	Type	Water Level (m)	Remarks		
0.2	ES				
0.5	ES				
1.5	ES				
2.8	ES				
3.0-4.0	B				
Remarks			Method, Plant, Stability, Dimensions		Logger
Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m			0.00 - 5.45m WS Dart 285		AA
Checked By: AA Approved By: AEM					

Window Sampler

Hole Type WS	Easting 342472.00	Northing 396966.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 5.45m WS Dart 285	Logger AA
---	--	--------------

Checked By: AA Approved By: AEM



Window Sampler

WS104
Sheet 1 of 1

Hole Type WS	Easting 342583.00	Northing 397060.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 16			(0.50)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	
		0.50	ES 17			0.50			0.5
		1.00	ES 18					MADE GROUND: Firm dark brown mottled black sandy gravelly clay. Gravel is subangular to rounded fine to coarse of various lithologies, brick and concrete.	1.0
		1.20	SPT	N=19 (3,7/7,6,4,2) N60=22		(1.70)			1.5
		2.00	SPT	N=65 for 300mm (4,12/15,16,16,18) N60=75		2.20			2.0
						(0.45)		Very weak red SANDSTONE [Chester Formation]	2.5
						2.65		End of Borehole at 2.65m	3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 2.65m WS Dart 286	Logger AA
Checked By: AA Approved By: AEM		

	Window Sampler				WS104 SUPPLEMENTARY INFO	
	Hole Type WS	Easting 342583.00	Northing 397060.00	Ground Level (m)	Scale 1:35	
	Project Name Alchemy Way, Knowsley		Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	
Client Network Space Limited		Consultant Abubakar Ali		Contractor ADS Consult Ltd		
SPT - Details						
Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results	
1.20 (S)		Dry	DART282	69	N=19 (3,7/7,6,4,2)	
2.00 (S)		Dry	DART282	69	N=65 for 300mm (4,12/15,16,16,18)	
Sample Details						
Sample ID	Type	Water Level (m)	Remarks			
0.2	ES					
0.5	ES					
1	ES					
Remarks			Method, Plant, Stability, Dimensions		Logger	
Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m			0.00 - 2.65m WS Dart 286		AA	
Checked By: AA Approved By: AEM						

Window Sampler

Hole Type WS	Easting 342583.00	Northing 397060.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 2.65m WS Dart 286	Logger AA
---	--	--------------

Checked By: AA Approved By: AEM



Window Sampler

WS105
Sheet 1 of 1

Hole Type WS	Easting 342630.00	Northing 397040.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 19			(0.40)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	
		0.50	ES 20			0.40		MADE GROUND: Soft to firm dark brown mottled black gravelly sandy clay. Gravel is angular to subangular fine to coarse of various lithologies, brick and concrete	0.5
						(0.80)			1.0
		1.20	SPT	N=2 (1,0/1,0,1,0) N60=2		1.20		MADE GROUND: Soft to firm dark grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and brick	1.5
		1.50	ES 21						
						(1.50)			2.0
		2.00	SPT	N=4 (1,1/1,1,1,1) N60=5					2.5
		2.50	ES 22						
		2.70-3.50	B 23			2.70		Stiff reddish brown slightly gravelly slightly sandy CLAY. Gravel is subangular to rounded fine to coarse of sandstone. [Devensian Till]	3.0
		3.00	SPT	N=36 (5,4/6,10,10,10) N60=41		(0.80)			3.5
		3.50	SPT	N=50 for 5mm (25 for 5mm) N60=0		3.50 (0.02) 3.52		Very weak red SANDSTONE [Chester Formation]	
								End of Borehole at 3.52m	4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 3.53m WS Dart 287	Logger AA
	Checked By: AA Approved By: AEM	

	Window Sampler				WS105 SUPPLEMENTARY INFO	
	Hole Type WS	Easting 342630.00	Northing 397040.00	Ground Level (m)	Scale 1:35	
	Project Name Alchemy Way, Knowsley		Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	
Client Network Space Limited		Consultant Abubakar Ali		Contractor ADS Consult Ltd		
SPT - Details						
Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results	
1.20 (S)		Dry	DART282	69	N=2 (1,0/1,0,1,0)	
2.00 (S)		Dry	DART282	69	N=4 (1,1/1,1,1,1)	
3.00 (S)		Dry	DART282	69	N=36 (5,4/6,10,10,10)	
3.50 (S)		Dry	DART282	69	N=50 for 5mm (25 for 5mm)	
Sample Details						
Sample ID	Type	Water Level (m)	Remarks			
0.2	ES					
0.5	ES					
1.5	ES					
2.5	ES					
2.7-3.5	B					
Remarks			Method, Plant, Stability, Dimensions		Logger	
Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m			0.00 - 3.53m WS Dart 287		AA	
Checked By: AA Approved By: AEM						

Window Sampler

Hole Type WS	Easting 342630.00	Northing 397040.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-06	End Date 2026-05-06	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Inspection pit hand dug to 1.20m	Method, Plant, Stability, Dimensions 0.00 - 3.53m WS Dart 287	Logger AA
---	--	--------------

Checked By: AA Approved By: AEM



Trial Pit

TP101
Sheet 1 of 1

Hole Type TP	Easting 342478.00	Northing 396948.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 24			(0.50)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	
		0.50	ES 25			0.50		MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete	0.5
		1.50	ES 26			(1.50)			1.0
		2.00				2.00			1.5
		2.50	ES 27			(0.50)		Firm to stiff reddish brown slightly gravelly slightly sandy CLAY. Gravel is subangular to rounded fine to coarse of sandstone. [Devensian Till]	2.0
						2.50		End of Trial Pit at 2.50m	2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services.	Method, Plant, Stability, Dimensions 0.00 - 2.50m TP JCB 3CX Stable L = 3.00m W = 0.80m
---	---



Trial Pit

TP101
SUPPLEMENTARY INFO

Hole Type TP	Easting 342478.00	Northing 396948.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1.5	ES		
2.5	ES		

Remarks Position scanned using a Cable Avoidance Tool to check for buried services.	Method, Plant, Stability, Dimensions 0.00 - 2.50m TP JCB 3CX Stable L = 3.00m W = 0.80m	Logger AA
--	--	--------------

Checked By: AA Approved By: AEM

Hole Type TP	Easting 342478.00	Northing 396948.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks
Position scanned using a Cable Avoidance Tool to check for buried services.

Method, Plant, Stability, Dimensions
0.00 - 2.50m TP JCB 3CX
Stable
L = 3.00m
W = 0.80m

Logger
AA

Checked By: AA Approved By: AEM



Trial Pit

TP102

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
TP	342543.00	396955.00		1:35
Project Name	Project No.	Start Date	End Date	
Alchemy Way, Knowsley	11110	2026-05-13	2026-05-13	

Client	Consultant	Contractor
Network Space Limited	Abubakar Ali	ADS Consult Ltd

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1.5	ES		
2.5	ES		

Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services.	0.00 - 2.50m TP JCB 3CX	AA
	Stable	
	L = 3.00m	
	W = 0.80m	
Checked By: AA Approved By: AEM		

Hole Type TP	Easting 342543.00	Northing 396955.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks
Position scanned using a Cable Avoidance Tool to check for buried services.

Method, Plant, Stability, Dimensions
0.00 - 2.50m TP JCB 3CX
Stable
L = 3.00m
W = 0.80m

Logger
AA

Checked By: AA Approved By: AEM



Trial Pit

TP103
Sheet 1 of 1

Hole Type TP	Easting 342560.00	Northing 396975.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 32			(0.50)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	
		0.50	ES 33			0.50		MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete	0.5
						(0.90)		<i>Large concrete boulder with drainage pipe encased within the concrete (0.80 - 1.20m)</i>	1.0
		1.50	ES 34			1.40		MADE GROUND: Firm orangish brown gravelly clay with some ashy coating. Gravel is angular to sub angular of concrete	1.5
						(0.60)			
		2.50	ES 35			2.00		MADE GROUND: Firm to stiff dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete	2.0
						(0.80)			2.5
						2.80		End of Trial Pit at 2.80m	3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services.	Method, Plant, Stability, Dimensions 0.00 - 2.80m TP JCB 3CX Stable L = 3.20m W = 0.80m
---	---



Trial Pit

TP103

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
TP	342560.00	396975.00		1:35
Project Name	Project No.	Start Date	End Date	
Alchemy Way, Knowsley	11110	2026-05-13	2026-05-13	

Client	Consultant	Contractor
Network Space Limited	Abubakar Ali	ADS Consult Ltd

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1.5	ES		
2.5	ES		

Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services.	0.00 - 2.80m TP JCB 3CX Stable L = 3.20m W = 0.80m	AA
Checked By: AA Approved By: AEM		

Hole Type TP	Easting 342560.00	Northing 396975.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks
Position scanned using a Cable Avoidance Tool to check for buried services.

Method, Plant, Stability, Dimensions
0.00 - 2.80m TP JCB 3CX
Stable
L = 3.20m
W = 0.80m

Logger
AA

Checked By: AA Approved By: AEM



Trial Pit

TP104
Sheet 1 of 1

Hole Type TP	Easting 342488.00	Northing 397023.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 36			(0.40)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	
		0.50	ES 37			0.40		MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete	0.5
						(1.60)		Saturated from 0.8m (0.80 - 2.20m)	1.0 1.5
		1.70	ES 38			2.00 (0.20) 2.20		Firm to stiff reddish brown slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse of sandstone. [Devensian Till]	2.0
								End of Trial Pit at 2.20m	2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Water seepage from 0.8m.	Method, Plant, Stability, Dimensions 0.00 - 2.20m TP JCB 3CX Collapsing from 0.5m L = 2.80m W = 0.80m	Logger AA
---	--	--------------

Checked By: AA Approved By: AEM



Trial Pit

TP104

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
TP	342488.00	397023.00		1:35
Project Name	Project No.	Start Date	End Date	
Alchemy Way, Knowsley	11110	2026-05-13	2026-05-13	

Client	Consultant	Contractor
Network Space Limited	Abubakar Ali	ADS Consult Ltd

Water Strike - General

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
0.80				

Water Strike - Details

Struck (m)	Rose To (m)	Time (mins)	Remarks
0.80			

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1.7	ES		

Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services. Water seepage from 0.8m.	0.00 - 2.20m TP JCB 3CX Collapsing from 0.5m L = 2.80m W = 0.80m	AA
Checked By: AA Approved By: AEM		

Hole Type TP	Easting 342488.00	Northing 397023.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Water seepage from 0.8m.	Method, Plant, Stability, Dimensions 0.00 - 2.20m TP JCB 3CX Collapsing from 0.5m L = 2.80m W = 0.80m	Logger AA
Checked By: AA Approved By: AEM		

ads: consult consulting engineers		Trial Pit				TP105 Sheet 1 of 1			
		Hole Type TP	Easting 342524.00	Northing 397072.00	Ground Level (m)	Scale 1:35			
		Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13				
Client Network Space Limited		Consultant Abubakar Ali		Contractor ADS Consult Ltd					
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 39			(0.60)		MADE GROUND: Grass over topsoil: firm brown sandy gravelly clay with some rootlets. Gravel is angular to subrounded, fine to coarse of various lithologies, brick, plastic and concrete	0.5
		0.80	ES 40			(0.40)		MADE GROUND: Soft to firm dark grey very gravelly slightly silty clay. Gravel is angular to subangular fine to coarse of various lithologies, brick and concrete	1.0
						1.00	----- End of Trial Pit at 1.00m		1.0
									1.5
									2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0
Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Rapid water infill from 0.8m. Trial Pit terminated at 1.0m due to limited visibility in the bottom of the pit.						Method, Plant, Stability, Dimensions 0.00 - 1.00m TP JCB 3CX Collapsing from 0.8m L = 2.00m W = 0.80m			Logger AA
Checked By: AA Approved By: AEM									



Trial Pit

TP105
SUPPLEMENTARY INFO

Hole Type TP	Easting 342524.00	Northing 397072.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Water Strike - General

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
0.80				

Water Strike - Details

Struck (m)	Rose To (m)	Time (mins)	Remarks
0.80			

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.8	ES		

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Rapid water infill from 0.8m. Trial Pit terminated at 1.0m due to limited visibility in the bottom of the pit.	Method, Plant, Stability, Dimensions 0.00 - 1.00m TP JCB 3CX Collapsing from 0.8m L = 2.00m W = 0.80m	Logger AA
---	---	--------------

Checked By: AA Approved By: AEM

Hole Type TP	Easting 342524.00	Northing 397072.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services. Rapid water infill from 0.8m. Trial Pit terminated at 1.0m due to limited visibility in the bottom of the pit.	0.00 - 1.00m TP JCB 3CX Collapsing from 0.8m L = 2.00m W = 0.80m	AA

Checked By: AA Approved By: AEM



Trial Pit

TP106
SUPPLEMENTARY INFO

Hole Type TP	Easting 342643.00	Northing 397080.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1.5	ES		
2.5	ES		

Remarks Position scanned using a Cable Avoidance Tool to check for buried services.	Method, Plant, Stability, Dimensions 0.00 - 2.80m TP JCB 3CX Stable L = 3.10m W = 0.80m	Logger AA
--	--	--------------

Checked By: AA Approved By: AEM

Hole Type TP	Easting 342643.00	Northing 397080.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks
Position scanned using a Cable Avoidance Tool to check for buried services.

Method, Plant, Stability, Dimensions
0.00 - 2.80m TP JCB 3CX
Stable
L = 3.10m
W = 0.80m

Logger
AA

Checked By: AA Approved By: AEM



Trial Pit

TP107

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
TP	342628.00	397093.00		1:35
Project Name	Project No.	Start Date	End Date	
Alchemy Way, Knowsley	11110	2026-05-13	2026-05-13	

Client	Consultant	Contractor
Network Space Limited	Abubakar Ali	ADS Consult Ltd

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1.8	ES		
3	ES		

Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services.	0.00 - 3.10m TP JCB 3CX Stable L = 3.40m W = 0.80m	AA
Checked By: AA Approved By: AEM		

Hole Type TP	Easting 342628.00	Northing 397093.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks
Position scanned using a Cable Avoidance Tool to check for buried services.

Method, Plant, Stability, Dimensions
0.00 - 3.10m TP JCB 3CX
Stable
L = 3.40m
W = 0.80m

Logger
AA

Checked By: AA Approved By: AEM

ads:consult consulting engineers				Trial Pit TP108 Sheet 1 of 1											
Hole Type		Easting		Northing		Ground Level (m)		Scale							
TP		342626.00		397118.00				1:35							
Project Name				Project No.		Start Date		End Date							
Alchemy Way, Knowsley				11110		2026-05-13		2026-05-13							
Client				Consultant		Contractor									
Network Space Limited				Abubakar Ali		ADS Consult Ltd									
Inst/Backfill		Samples and Tests			Level	Depth	Strata								
Water Levels		Depth (m)	Type/Ref	Results	(m)	(m)	Legend	Description							
		0.20	ES 49			(0.50)		MADE GROUND: Grass over topsoil: brown slightly gravelly sand with some roots. Gravel is subangular to subrounded fine to coarse of							
		0.50	ES 50			0.50		MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete							
		1.00	WAC 51			0.80		MADE GROUND: Firm to stiff reddish brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone.							
		1.50	ES 52			(1.30)									
		2.10						End of Trial Pit at 2.10m							
Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Trial Pit excavated from the bund at the Northern boundary of the site. Terminated at 2.1m due to limited area of movement for the excavator.										Method, Plant, Stability, Dimensions 0.00 - 2.10m TP JCB 3CX Stable L = 2.80m W = 0.80m				Logger AA	
Checked By: AA Approved By: AEM															

SPT N60 = N(raw) * (Hammer Energy Ratio / 60) to nearest whole number

Created using Pebble Geo



Trial Pit

TP108

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
TP	342626.00	397118.00		1:35
Project Name	Project No.	Start Date	End Date	
Alchemy Way, Knowsley	11110	2026-05-13	2026-05-13	

Client	Consultant	Contractor
Network Space Limited	Abubakar Ali	ADS Consult Ltd

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1	WAC		
1.5	ES		

Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services. Trial Pit excavated from the bund at the Northern boundary of the site. Terminated at 2.1m due to limited area of movement for the excavator.	0.00 - 2.10m TP JCB 3CX Stable L = 2.80m W = 0.80m	AA
Checked By: AA Approved By: AEM		

Hole Type TP	Easting 342626.00	Northing 397118.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Trial Pit excavated from the bund at the Northern boundary of the site. Terminated at 2.1m due to limited area of movement for the excavator.	Method, Plant, Stability, Dimensions 0.00 - 2.10m TP JCB 3CX Stable L = 2.80m W = 0.80m	Logger AA
Checked By: AA Approved By: AEM		



Trial Pit

TP109
Sheet 1 of 1

Hole Type TP	Easting 342509.00	Northing 397115.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 53			(0.50)		MADE GROUND: Grass over topsoil: brown slightly gravelly sand with some roots. Gravel is subangular to subrounded fine to coarse of	
		0.50	ES 54			0.50		MADE GROUND: Firm dark brown mottled black gravelly sandy clay. Gravel is angular to subrounded fine to coarse of various lithologies, brick and concrete	0.5
		1.00	WAC 55			(1.70)			1.0
		1.50	ES 56			2.20			1.5
								End of Trial Pit at 2.20m	2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks Position scanned using a Cable Avoidance Tool to check for buried services. Trial Pit excavated from the bund at the Northern boundary of the site. Terminated at 2.2m due to limited area of movement for the excavator.	Method, Plant, Stability, Dimensions 0.00 - 2.20m TP JCB 3CX Stable L = 2.80m W = 0.80m	Logger AA
--	---	--------------

Checked By: AA Approved By: AEM



Trial Pit

TP109

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
TP	342509.00	397115.00		1:35
Project Name	Project No.	Start Date	End Date	
Alchemy Way, Knowsley	11110	2026-05-13	2026-05-13	

Client	Consultant	Contractor
Network Space Limited	Abubakar Ali	ADS Consult Ltd

Sample Details

Sample ID	Type	Water Level (m)	Remarks
0.2	ES		
0.5	ES		
1	WAC		
1.5	ES		

Remarks	Method, Plant, Stability, Dimensions	Logger
Position scanned using a Cable Avoidance Tool to check for buried services. Trial Pit excavated from the bund at the Northern boundary of the site. Terminated at 2.2m due to limited area of movement for the excavator.	0.00 - 2.20m TP JCB 3CX Stable L = 2.80m W = 0.80m	AA

Checked By: AA Approved By: AEM

Hole Type TP	Easting 342509.00	Northing 397115.00	Ground Level (m)	Scale 1:35
Project Name Alchemy Way, Knowsley	Project No. 11110	Start Date 2026-05-13	End Date 2026-05-13	

Client Network Space Limited	Consultant Abubakar Ali	Contractor ADS Consult Ltd
---------------------------------	----------------------------	-------------------------------



Remarks

Position scanned using a Cable Avoidance Tool to check for buried services. Trial Pit excavated from the bund at the Northern boundary of the site. Terminated at 2.2m due to limited area of movement for the excavator.

Method, Plant, Stability, Dimensions

0.00 - 2.20m TP JCB 3CX
Stable
L = 2.80m
W = 0.80m

Logger

AA

Checked By: AA Approved By: AEM

Appendix C

CHEMICAL TEST RESULTS

ADS Structural
107 Mere Grange Business
Leaside
St Helens
Cheshire
WA9 5GG

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

t:

t: 01923 225404

e: andy.moore@adsconsult.uk; abubakar.ali@adsconsult.uk

f: 01923 237404

e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-024852

Replaces Analytical Report Number: 26-024852, issue no. 1

Additional analysis undertaken.

Asbestos Quantification added to sample 915340 as per client's request

Project / Site name:	Alchemy Way Knowsley	Samples received on:	11/05/2026
Your job number:	11110	Samples instructed on/ Analysis started on:	11/05/2026
Your order number:	PO-587	Analysis completed by:	28/05/2026
Report Issue Number:	2	Report issued on:	03/06/2026
Samples Analysed:	4 soil samples		



Signed:

Trevor Hill
Customer Service
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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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: 26-024852
Project / Site name: Alchemy Way Knowsley
Your Order No: PO-587

Lab Sample Number	915340	915341	915342	915343
Sample Reference	WS101A	WS102	WS105	WS105
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A
Depth (m)	0.50	0.50	0.50	1.50
Date Sampled	06/05/2026	06/05/2026	06/05/2026	06/05/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	16	11	13
Total mass of sample received	kg	0.1	NONE	1	0.9	1	1.3

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	-
Analysis completed	N/A	N/A	N/A	21/05/2026	21/05/2026	21/05/2026	-
Actinolite detected	Type	N/A	ISO 17025	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	Not-detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	Not-detected	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	-	-	-
-------------------------------------	---	-------	-----------	---------	---	---	---

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Bitumen	-	-	-
---	------	-----	-----------	---------	---	---	---

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.7	8.4	8.2	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1300	-	-	39
Organic Matter (automated)	%	0.1	MCERTS	1.6	1.8	0.9	-

Total Phenols

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.43	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	0.05	0.72	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.49	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	0.31	3.6	0.15	-
Anthracene	mg/kg	0.05	MCERTS	0.08	0.82	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	0.55	6.4	0.2	-
Pyrene	mg/kg	0.05	MCERTS	0.53	6	0.19	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.29	3.1	0.1	-
Chrysene	mg/kg	0.05	MCERTS	0.3	3.3	0.12	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.32	3.8	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.11	1.3	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.25	3.3	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.16	1.8	0.08	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.5	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.18	2.1	0.11	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.14	37.7	0.96	-
-----------------------------	-------	-----	-----------	------	------	------	---

Analytical Report Number: 26-024852
Project / Site name: Alchemy Way Knowsley
Your Order No: PO-587

Lab Sample Number	915340	915341	915342	915343
Sample Reference	WS101A	WS102	WS105	WS105
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A
Depth (m)	0.50	0.50	0.50	1.50
Date Sampled	06/05/2026	06/05/2026	06/05/2026	06/05/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.6	15	9.9	-
Barium (aqua regia extractable)	mg/kg	1	MCERTS	86	160	77	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.71	0.74	0.76	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.9	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	72	29	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	41	53	20	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	40	270	15	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.7	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	20	26	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	26	29	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	150	39	-

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	-

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	2.1	< 2.0	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	13	< 10	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	36	< 10	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	52	< 10	-

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: **26-024852**
Project / Site name: **Alchemy Way Knowsley**
Your Order No: **PO-587**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample	Analysis completed	Analyst ID
915340	WS101A	0.5	230	Bitumen	Chrysotile	< 0.001	< 0.001	28/05/2026	MJN

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 26-024852

Project / Site name: Alchemy Way Knowsley

* 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 *
915340	WS101A	None Supplied	0.5	Brown clay and sand with gravel and vegetation
915341	WS102	None Supplied	0.5	Brown clay and sand with gravel
915342	WS105	None Supplied	0.5	Brown clay and sand with gravel and vegetation
915343	WS105	None Supplied	1.5	Brown clay and sand with gravel

Analytical Report Number : 26-024852

Project / Site name: Alchemy Way Knowsley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazine followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS

Analytical Report Number : 26-024852

Project / Site name: Alchemy Way Knowsley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

ADS Structural
107 Mere Grange Business
Leaside
St Helens
Cheshire
WA9 5GG

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

t:

t: 01923 225404

e: andy.moore@adsconsult.uk; abubakar.ali@adsconsult.uk

f: 01923 237404

e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-025043

Project / Site name:	Alchemy Way, Knowsley	Samples received on:	11/05/2026
Your job number:	11110	Samples instructed on/ Analysis started on:	12/05/2026
Your order number:	PO-0587	Analysis completed by:	21/05/2026
Report Issue Number:	1	Report issued on:	21/05/2026
Samples Analysed:	2 soil samples		



Signed:

Anna Goc
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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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: 26-025043
Project / Site name: Alchemy Way, Knowsley
Your Order No: PO-0587

Lab Sample Number					916436	916437
Sample Reference					WS101A	WS105
Sample Number					None Supplied	None Supplied
Water Matrix					N/A	N/A
Depth (m)					3.00-3.70	2.70-3.50
Date Sampled					06/05/2026	06/05/2026
Time Taken					None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					Units	Test Limit of detection

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	11
Total mass of sample received	kg	0.1	NONE	0.1	0.3

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.4	8.6
Total Sulphate as SO ₄	%	0.005	MCERTS	0.026	0.01
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	88	39
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	43.8	19.4
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	5	4.4
Total Sulphur	mg/kg	50	MCERTS	410	< 50
Total Sulphur	%	0.005	MCERTS	0.041	< 0.005
Ammoniacal Nitrogen as NH ₄ ⁺	mg/kg	0.5	MCERTS	< 0.5	1.6
Ammonium as NH ₄ ⁺ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	0.11
Nitrate as NO ₃ (Water Soluble) (2:1)	mg/kg	0.9	NONE	< 0.90	< 0.90
Water Soluble Nitrate (2:1) as NO ₃ (leachate equivalent)	mg/l	0.9	N/A	< 0.90	< 0.90

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	11	5.3
Magnesium (water soluble)	mg/kg	5	NONE	23	11

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 26-025043

Project / Site name: Alchemy Way, Knowsley

* 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 *
916436	WS101A	None Supplied	3.00-3.70	Brown clay and sand
916437	WS105	None Supplied	2.70-3.50	Brown clay and sand

Analytical Report Number : 26-025043

Project / Site name: Alchemy Way, Knowsley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	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	L038B	D	NONE
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	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
Water Soluble Nitrate (2:1) as NO ₃ in soil	Determination of nitrate as NO ₃ in soil by discrete method	In-house method by discrete analyzer based on TON as N, Total Oxidized Nitrogen (Vanadium Chloride reduction), Thermo Fisher Scientific, MANUAL 2015-0	L082B	W	NONE
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

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

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

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

ADS Structural
107 Mere Grange Business
Leaside
St Helens
Cheshire
WA9 5GG

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

t:
e: abubakar.ali@adsconsult.uk

t: 01923 225404
f: 01923 237404
e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-025720

Project / Site name:	Alchemy Way, Knowsley	Samples received on:	14/05/2026
Your job number:	11110	Samples instructed on/ Analysis started on:	14/05/2026
Your order number:	PO-0587	Analysis completed by:	25/05/2026
Report Issue Number:	1	Report issued on:	25/05/2026
Samples Analysed:	10 soil samples - 2 leachate samples		



Signed:

Anna Goc
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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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: 26-025720
Project / Site name: Alchemy Way, Knowsley
Your Order No: PO-0587

Lab Sample Number				919615	919616	919617	919618	919619
Sample Reference				TP101	TP102	TP103	TP105	TP107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.50	0.50	0.50	0.20	0.50
Date Sampled				13/05/2026	13/05/2026	13/05/2026	13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	10	10	11	13
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8	0.8	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA	DSA
Analysis completed	N/A	N/A	N/A	25/05/2026	25/05/2026	25/05/2026	25/05/2026	25/05/2026

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	-	-	-	-	-
pH (L099)	pH Units	N/A	MCERTS	8.4	8.2	8	7.3	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	170	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	86.9	-	-
Organic Matter (automated)	%	0.1	MCERTS	0.8	-	1.8	-	1.2
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	-	-	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	-	-	-	-	-
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	-	-	-	-	-

Total Phenols

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.08	0.12	< 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	0.11	0.18	0.14	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.21	0.15	0.09	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.82	1	0.52	0.2	0.07
Anthracene	mg/kg	0.05	MCERTS	0.34	0.32	0.1	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.9	3.1	0.74	0.24	0.09
Pyrene	mg/kg	0.05	MCERTS	1.7	2.9	0.78	0.22	0.09
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.8	1.5	0.39	0.13	0.06
Chrysene	mg/kg	0.05	MCERTS	0.75	1.3	0.4	0.12	0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.98	2	0.52	0.14	0.07
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.41	0.73	0.17	0.06	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.85	1.7	0.41	0.12	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.43	0.82	0.19	0.08	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	0.17	0.06	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.46	0.94	0.2	0.06	< 0.05
Coronene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	9.91	16.9	4.83	1.37	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	-	-	-

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.7	11	8.6	7.2	9
----------------------------------	-------	---	--------	-----	----	-----	-----	---

Analytical Report Number: 26-025720
Project / Site name: Alchemy Way, Knowsley
Your Order No: PO-0587

Lab Sample Number				919615	919616	919617	919618	919619
Sample Reference				TP101	TP102	TP103	TP105	TP107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.50	0.50	0.50	0.20	0.50
Date Sampled				13/05/2026	13/05/2026	13/05/2026	13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Barium (aqua regia extractable)	mg/kg	1	MCERTS	75	94	77	55	96
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.76	0.86	0.65	0.51	0.71
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.6	0.7	0.4	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	0.3	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	27	25	24	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	32	68	37	20	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	56	57	29	19
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27	26	21	16	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	29	26	25	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	76	58	34	41

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	12	< 10	< 10	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	12	< 10	< 10	-

Mineral Oil (EC10 - EC40) _{EH_CU_1D_AL}	mg/kg	10	NONE	-	-	-	-	-
--	-------	----	------	---	---	---	---	---

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-

Total BTEX	µg/kg	10	MCERTS	-	-	-	-	-
------------	-------	----	--------	---	---	---	---	---

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	-	-	-	-	-

Analytical Report Number: 26-025720
Project / Site name: Alchemy Way, Knowsley
Your Order No: PO-0587

Lab Sample Number				919615	919616	919617	919618	919619
Sample Reference				TP101	TP102	TP103	TP105	TP107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.50	0.50	0.50	0.20	0.50
Date Sampled				13/05/2026	13/05/2026	13/05/2026	13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
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				mg/kg	0.007	MCERTS	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 26-025720
Project / Site name: Alchemy Way, Knowsley
Your Order No: PO-0587

Lab Sample Number				919620	919621	919622	919623	919624
Sample Reference				TP107	TP108	TP108	TP109	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.80	1.00	1.50	1.00	1.50
Date Sampled				13/05/2026	13/05/2026	13/05/2026	13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	13	13	14	16
Total mass of sample received	kg	0.1	NONE	1	1.8	1.2	1.2	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	-	DSA	-	DSA
Analysis completed	N/A	N/A	N/A	25/05/2026	-	25/05/2026	-	25/05/2026

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	-	8.4	-	7	-
pH (L099)	pH Units	N/A	MCERTS	8	-	8.6	-	7.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	0.5	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	0.3	-	0.7	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	-	0.8	-	1.7	-
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	-	51	-	0	-

Total Phenols

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.06	0.1	0.1
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	0.06	0.47	0.06
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.06	0.31	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.18	0.37	1.8	0.2
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.1	0.31	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.35	0.77	1.9	0.22
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.33	0.77	1.6	0.22
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.19	0.39	0.69	0.12
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.16	0.39	0.73	0.16
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.23	0.49	0.71	0.18
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.08	0.17	0.37	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.18	0.41	0.65	0.11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.09	0.21	0.32	0.06
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.1	0.24	0.38	0.08
Coronene	mg/kg	0.05	NONE	-	< 0.05	-	< 0.05	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	-	4.5	-	1.52
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	1.89	-	10.4	-

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.7	-	8.1	-	7.9
----------------------------------	-------	---	--------	-----	---	-----	---	-----

Analytical Report Number: 26-025720
 Project / Site name: Alchemy Way, Knowsley
 Your Order No: PO-0587

Lab Sample Number				919620	919621	919622	919623	919624
Sample Reference				TP107	TP108	TP108	TP109	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.80	1.00	1.50	1.00	1.50
Date Sampled				13/05/2026	13/05/2026	13/05/2026	13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Barium (aqua regia extractable)	mg/kg	1	MCERTS	140	-	52	-	39
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.93	-	0.63	-	0.47
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	-	0.6	-	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	< 1.8	-	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	37	-	21	-	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	-	44	-	9.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	7.4	-	47	-	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36	-	18	-	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	34	-	20	-	20
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	35	-	38	-	21

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	-	-	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	-	-	-	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	-	-	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	-	-	-	-

Mineral Oil (EC10 - EC40) _{EH_CU_1D_AL}	mg/kg	10	NONE	-	< 10	-	< 10	-
--	-------	----	------	---	------	---	------	---

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
p & m-Xylene	µg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-

Total BTEX	µg/kg	10	MCERTS	-	< 10	-	< 10	-
------------	-------	----	--------	---	------	---	------	---

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-

Analytical Report Number: 26-025720
Project / Site name: Alchemy Way, Knowsley
Your Order No: PO-0587

Lab Sample Number				919620	919621	919622	919623	919624
Sample Reference				TP107	TP108	TP108	TP109	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.80	1.00	1.50	1.00	1.50
Date Sampled				13/05/2026	13/05/2026	13/05/2026	13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
PCB Congener 138	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
Total PCBs	mg/kg	0.007	MCERTS	-	< 0.007	-	< 0.007	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 26-025720
Project / Site name: Alchemy Way, Knowsley

Your Order No: PO-0587

Lab Sample Number				919621	919623
Sample Reference				TP108	TP109
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1.00	1.00
Date Sampled				13/05/2026	13/05/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

10:1 WAC Leachate

Arsenic	mg/l	0.001	ISO 17025	0.00445	< 0.00100
Barium	mg/l	0.00005	ISO 17025	0.0136	0.0102
Cadmium	mg/l	0.0001	ISO 17025	< 0.000100	< 0.000100
Chromium	mg/l	0.0004	ISO 17025	0.0028	0.0038
Copper	mg/l	0.0007	ISO 17025	0.0059	0.0068
Mercury	mg/l	0.0005	ISO 17025	< 0.000500	< 0.000500
Molybdenum	mg/l	0.0004	ISO 17025	0.00594	0.000774
Nickel	mg/l	0.0003	ISO 17025	0.0013	0.0025
Lead	mg/l	0.001	ISO 17025	0.0019	0.0014
Antimony	mg/l	0.0017	ISO 17025	< 0.0017	< 0.0017
Selenium	mg/l	0.004	ISO 17025	< 0.0040	< 0.0040
Zinc	mg/l	0.0004	ISO 17025	0.0047	0.004
Chloride	mg/l	0.15	ISO 17025	0.81	1.1
Fluoride	mg/l	0.05	ISO 17025	0.41	0.49
Sulphate	mg/l	0.045	ISO 17025	4.6	2
Total dissolved solids	mg/l	6	ISO 17025	46	23
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010	< 0.010
Dissolved organic carbon	mg/l	0.1	NONE	6.71	9.58

10:1 WAC Leachate

Arsenic	mg/kg	0.01	NONE	0.0445	< 0.0100
Barium	mg/kg	0.0005	NONE	0.136	0.102
Cadmium	mg/kg	0.001	NONE	< 0.00100	< 0.00100
Chromium	mg/kg	0.004	NONE	0.028	0.038
Copper	mg/kg	0.007	NONE	0.059	0.068
Mercury	mg/kg	0.005	NONE	< 0.00500	< 0.00500
Molybdenum	mg/kg	0.004	NONE	0.0594	0.00774
Nickel	mg/kg	0.003	NONE	0.013	0.025
Lead	mg/kg	0.01	NONE	0.019	0.014
Antimony	mg/kg	0.017	NONE	< 0.017	< 0.017
Selenium	mg/kg	0.04	NONE	< 0.040	< 0.040
Zinc	mg/kg	0.004	NONE	0.047	0.04
Chloride	mg/kg	1.5	NONE	8.1	11
Fluoride	mg/kg	0.5	NONE	4.1	4.9
Sulphate	mg/kg	0.45	NONE	46	20
Total dissolved solids	mg/kg	60	NONE	460	230
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10	< 0.10
Dissolved organic carbon	mg/kg	1	NONE	67.1	95.8

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404

Fax: 01923 237404

email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	26-025720					
				Client: ADS Structural		
Location	Alchemy Way, Knowsley					
Lab Reference (Sample Number)	919621			Landfill Waste Acceptance Criteria		
				Limits		
Sampling Date	13.05.2026			Inert Waste Landfill	Stable Non- reactive HAZARDOUS waste in non- hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP108					
Depth (m)	1.00					
Solid Waste Analysis						
TOC (%)**	0.3			3%	5%	6%
Loss on Ignition (%) **	0.8			--	--	10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.007			1	--	--
Mineral Oil (mg/kg) EH_10_CU_AL	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	1.89			100	--	--
pH (units)**	8.4			--	>6	--
Acid Neutralisation Capacity (mmol / kg)	51			--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1		10:1	Limit values for compliance leaching test		
	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00445		0.0445	0.5	2	25
Barium *	0.0136		0.136	20	100	300
Cadmium *	< 0.000100		< 0.00100	0.04	1	5
Chromium *	0.0028		0.028	0.5	10	70
Copper *	0.0059		0.059	2	50	100
Mercury *	< 0.000500		< 0.00500	0.01	0.2	2
Molybdenum *	0.00594		0.0594	0.5	10	30
Nickel *	0.0013		0.013	0.4	10	40
Lead *	0.0019		0.019	0.5	10	50
Antimony *	< 0.0017		< 0.017	0.06	0.7	5
Selenium *	< 0.0040		< 0.040	0.1	0.5	7
Zinc *	0.0047		0.047	4	50	200
Chloride *	0.81		8.1	800	15000	25000
Fluoride*	0.41		4.1	10	150	500
Sulphate *	4.6		46	1000	20000	50000
TDS*	46		460	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	1	-	-
DOC	6.71		67.1	500	800	1000
Leach Test Information						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.8					
Dry Matter (%)	87					
Moisture (%)	13					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.						
				** = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = MCERTS accredited		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404

Fax: 01923 237404

email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	26-025720					
				Client: ADS Structural		
Location	Alchemy Way, Knowsley					
Lab Reference (Sample Number)	919623			Landfill Waste Acceptance Criteria		
Sampling Date	13.05.2026			Limits		
Sample ID	TP109			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	1.00					
Solid Waste Analysis						
TOC (%)**	0.7			3%	5%	6%
Loss on Ignition (%) **	1.7			--	--	10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.007			1	--	--
Mineral Oil (mg/kg) EH_10_CU_AL	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	10.4			100	--	--
pH (units)**	7			--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0			--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1		10:1	Limit values for compliance leaching test		
	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100		< 0.0100	0.5	2	25
Barium *	0.0102		0.102	20	100	300
Cadmium *	< 0.000100		< 0.00100	0.04	1	5
Chromium *	0.0038		0.038	0.5	10	70
Copper *	0.0068		0.068	2	50	100
Mercury *	< 0.000500		< 0.00500	0.01	0.2	2
Molybdenum *	0.000774		0.00774	0.5	10	30
Nickel *	0.0025		0.025	0.4	10	40
Lead *	0.0014		0.014	0.5	10	50
Antimony *	< 0.0017		< 0.017	0.06	0.7	5
Selenium *	< 0.0040		< 0.040	0.1	0.5	7
Zinc *	0.004		0.04	4	50	200
Chloride *	1.1		11	800	15000	25000
Fluoride*	0.49		4.9	10	150	500
Sulphate *	2		20	1000	20000	50000
TDS*	23		230	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	1	-	-
DOC	9.58		95.8	500	800	1000
Leach Test Information						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	86					
Moisture (%)	14					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.						
				** = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = MCERTS accredited		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 26-025720

Project / Site name: Alchemy Way, Knowsley

* 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 *
919615	TP101	None Supplied	1.5	Brown clay and sand with gravel
919616	TP102	None Supplied	0.5	Brown clay and sand with gravel
919617	TP103	None Supplied	0.5	Brown clay and sand with gravel
919618	TP105	None Supplied	0.2	Brown clay and sand with gravel and vegetation
919619	TP107	None Supplied	0.5	Brown clay and sand with gravel and vegetation
919620	TP107	None Supplied	1.8	Brown clay and sand with gravel
919621	TP108	None Supplied	1	Brown clay and sand with gravel
919622	TP108	None Supplied	1.5	Brown clay and sand with gravel
919623	TP109	None Supplied	1	Brown clay and sand with gravel and vegetation
919624	TP109	None Supplied	1.5	Brown clay and sand with gravel and vegetation

Analytical Report Number : 26-025720

Project / Site name: Alchemy Way, Knowsley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazine followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	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

Analytical Report Number : 26-025720

Project / Site name: Alchemy Way, Knowsley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	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	L039B	W	ISO 17025
One stage WAC 10:1 leachate preparation	One stage batch test at a liquid to solid ratio of 10 L/kg	BS EN 12457-2-2002	L043B	W	ISO 17025
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Total petroleum hydrocarbons by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID	In-house method	L076B	D	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025

Analytical Report Number : 26-025720

Project / Site name: Alchemy Way, Knowsley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



Sample Deviation Report



Normec
i2 Analytical

Analytical Report Number : 26-025720

Project / Site name: Alchemy Way, Knowsley

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.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP108	N/A	L	919621	b	One stage WAC 10:1 leachate preparation	L043B	b
TP109	N/A	L	919623	b	One stage WAC 10:1 leachate preparation	L043B	b

Appendix D

GEOTECHNICAL TEST RESULTS





4041

**TEST CERTIFICATE****DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6



Normec
i2 Analytical

Client: ADS Structural
Client Address: 107 Mere Grange Business, Leaside,
St Helens, Cheshire,
WA9 5GG

Contact: Abubakar Ali
Site Address: Alchemy Way, Knowsley

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 11110
Job Number: 26-025042-1
Date Sampled: 06/05/2026
Date Received: 11/05/2026
Date Tested: 27/05/2026
Sampled By: Client - AA

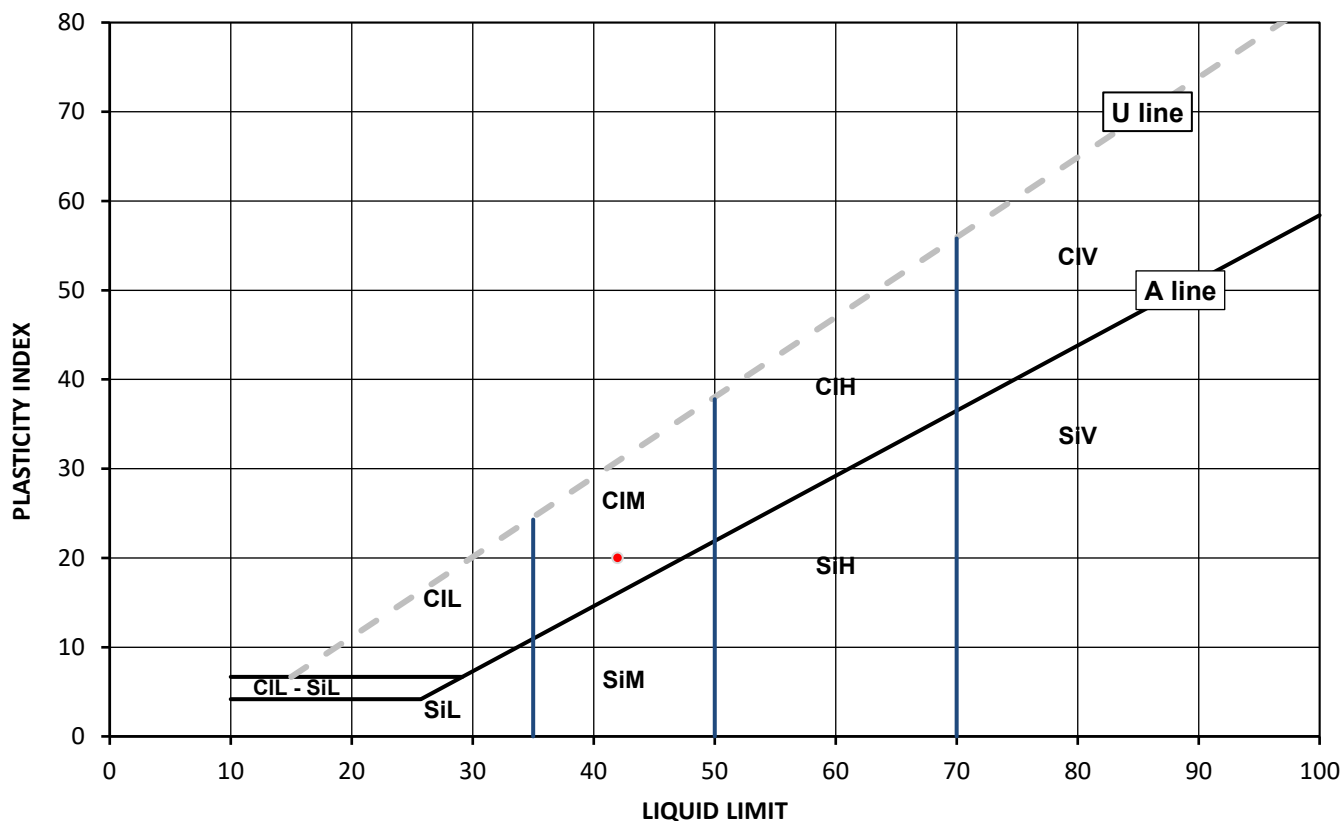
Test Results:

Laboratory Reference: 916434
Hole No.: WS101A
Sample Reference: Not Given
Sample Description: Brown sandy CLAY

Depth Top [m]: 3.00
Depth Base [m]: 3.70
Sample Type: B

Sample Preparation: Tested in natural condition; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] #	Consistency Index [IC] #	% Passing 425µm BS Test Sieve
13.0	42	22	20	-0.45	1.45	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L Low	50 to 70
	M Medium	exceeding 70
	H High	append to classification for organic material (eg ClHO)
	V Very high	
	O Organic	

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Page 1 of 1

Date Reported: 01/06/2026

GF 337.17



4041

**TEST CERTIFICATE****DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6



Normec
i2 Analytical

Client: ADS Structural
Client Address: 107 Mere Grange Business, Leaside,
St Helens, Cheshire,
WA9 5GG
Contact: Abubakar Ali
Site Address: Alchemy Way, Knowsley

Client Reference: 11110
Job Number: 26-025042-1
Date Sampled: 06/05/2026
Date Received: 11/05/2026
Date Tested: 27/05/2026
Sampled By: Client - AA

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

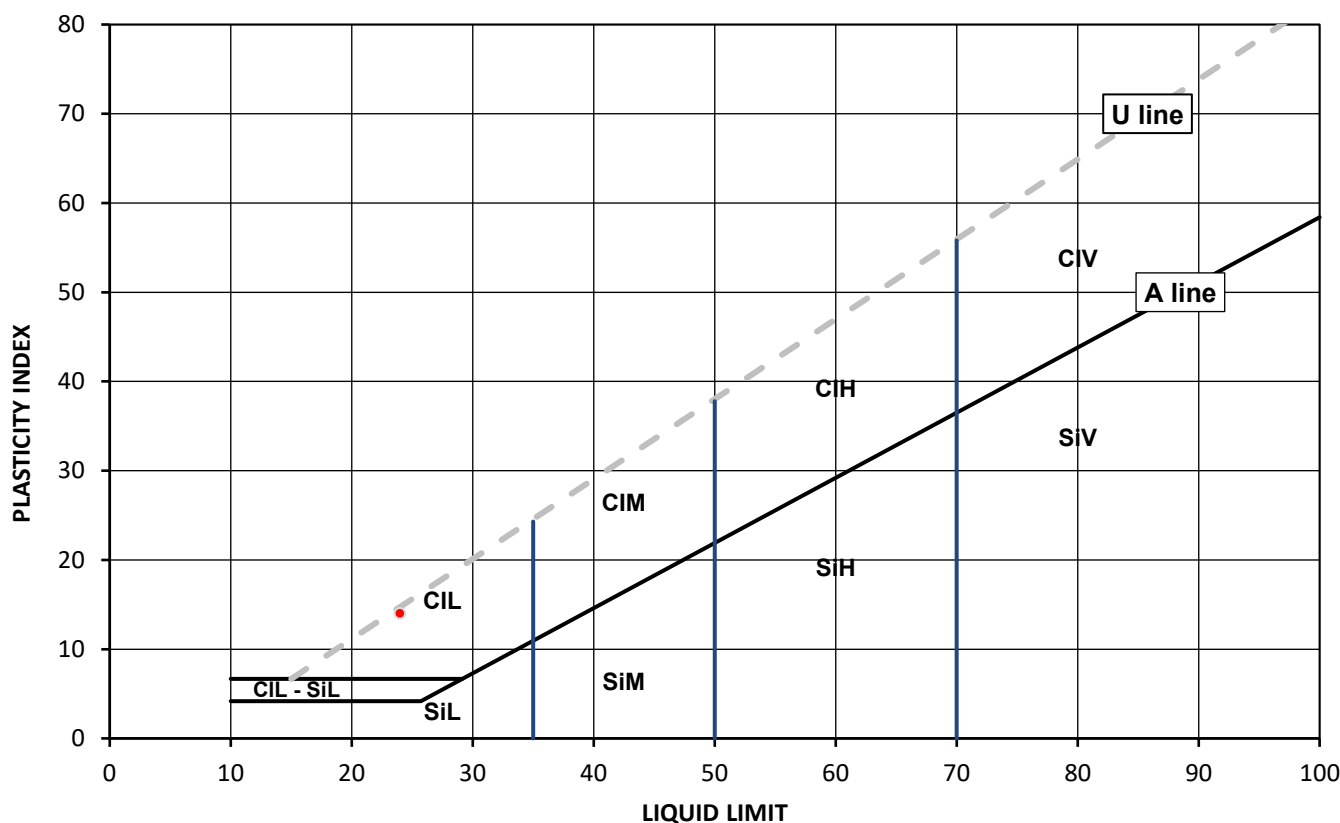
Test Results:

Laboratory Reference: 916435
Hole No.: WS105
Sample Reference: Not Given
Sample Description: Brown slightly gravelly clayey SAND

Depth Top [m]: 2.70
Depth Base [m]: 3.50
Sample Type: B

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] #	Consistency Index [IC] #	% Passing 425µm BS Test Sieve
12.3	24	10	14	0.16	0.84	82



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L Low	50 to 70
	M Medium	exceeding 70
	H High	append to classification for organic material (eg ClHO)
	V Very high	
	O Organic	

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Page 1 of 1

Date Reported: 01/06/2026

GF 337.17



SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:



4041

Client: ADS Structural
 Client Address: 107 Mere Grange Business, Leaside,
 St Helens, Cheshire,
 WA9 5GG
 Contact: Abubakar Ali
 Site Address: Alchemy Way, Knowsley

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt
 Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Client Reference: 11110
 Job Number: 26-025042-1
 Date Sampled: 06/05/2026
 Date Received: 11/05/2026
 Date Tested: 27/05/2026
 Sampled By: Client - AA

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m														
916434	WS101A	Not Given	3.00	3.70	B	Brown sandy CLAY	Atterberg 4 Point	13.0	100	42	-	22	20	80g/30 deg	N / I			
916435	WS105	Not Given	2.70	3.50	B	Brown slightly gravelly clayey SAND	Atterberg 4 Point	12.3	82	24	-	10	14	80g/30 deg	R / I			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased , D - The water content in the sample was decreased; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Signed:

Katarzyna Koziel

Katarzyna Koziel
 Geotechnical Reporting Team Leader
 for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1



4041
Client: ADS Structural
Client Address: 107 Mere Grange Business, Leaside,
St Helens, Cheshire,
WA9 5GG
Contact: Abubakar Ali
Site Address: Alchemy Way, Knowsley

Client Reference: 11110
Job Number: 26-025042-1
Date Sampled: 06/05/2026
Date Received: 11/05/2026
Date Tested: 27/05/2026
Sampled By: Client - AA

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
916434	WS101A	Not Given	3.00	3.70	B	Brown sandy CLAY		13.0											
916435	WS105	Not Given	2.70	3.50	B	Brown slightly gravelly clayey SAND		12.3											

Comments:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Katarzyna
Koziel

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Appendix E

GAS MONITORING RECORD SHEETS

ADS Consult

107 Mere Grange Business Park, Leaside, St Helens, WA9 5GG
Tel: 0151 541 4000



Exploratory holes dipped from ground level.

GROUND GAS MONITORING RECORD SHEET

Client:	Network Space					Job No:	11110					Instruments Used:		Gas Analyser, Interface Meter, PID				
Project Name:	Alchemy Way, Knowsley					Date:	15/05/2026					Make / Model:		GFM436 Landfill Analyser 1-6 Gas				
Weather:	Sunny with some clouds					Monitored By:		AA				Serial Number:		13416				
Exploratory Hole No.	Peak		Time to reach steady concentration (secs)	Steady						Peak	Time to reach steady flow (secs)	Steady	Atmospheric Pressure	Water Depth	Elevation	Water Level	Remarks	
	CH ₄	CO ₂		CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Flow Rate		Flow Rate						
	(% vol)	(% vol)		(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(L/hr)		(L/hr)						(mbar)
CP03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1008	1.08	-	-		
CP04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1008	1.85				
WS05	0.0	0.9	30.0	0.0	0.9	19.8	0.0	0.0	1.0	0.0	15.0	0.0	1008	0.92				
WS06	0.0	1.9	30.0	0.0	1.9	18.2	0.0	0.0	1.0	0.0	15.0	0.0	1008	2.65				
WS07	0.0	0.3	30.0	0.0	0.3	20.5	0.0	0.0	1.0	0.0	15.0	0.0	1008	1.08				
WS101A	0.0	2.0	30.0	0.0	2.0	18.8	0.0	0.0	1.0	0.0	15.0	0.0	1008	1.87				
WS102	0.0	0.0	30.0	0.0	0.0	20.6	0.0	0.0	1.0	0.0	15.0	0.0	1008	0.45				
WS103	0.0	0.9	30.0	0.0	0.9	19.7	0.0	0.0	1.0	0.0	15.0	0.0	1008	2.25				
WS104	0.0	0.0	30.0	0.0	0.0	20.6	0.0	0.0	1.0	0.0	15.0	0.0	1008	0.53				
WS105	17.9	3.2	30.0	17.9	3.2	9.9	0.0	0.0	1.0	0.0	15.0	0.0	1008	1.72				

Background Atmospheric pressure:

	Day -3	Day -2	Day -1	Day 0	Falling, Steady or Rising
Weather Conditions	1016	1005	998	1008	Rising

Atmospheric pressure obtained from:

http://www.metoffice.gov.uk/weather/uk/uk_latest_pressure.html

Ambient Gas Levels:

	CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Atmospheric Pressure
	(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(mbar)
Before Monitoring	0.0	0.0	20.6	0	0	0.0	1008
After Monitoring	0.0	0.0	20.6	0	0	0.0	1008

1 The peak reading is the maximum recorded level during a monitoring event.

2 The steady reading is the level which remained constant after approximately 1 minute.

ADS Consult

107 Mere Grange Business Park, Leaside, St Helens, WA9 5GG
Tel: 0151 541 4000



Exploratory holes dipped from ground level.

GROUND GAS MONITORING RECORD SHEET

Client:	Network Space					Job No:	11110					Instruments Used:		Gas Analyser, Interface Meter, PID					
Project Name:	Alchemy Way, Knowsley					Date:	01/06/2026					Make / Model:		GFM436 Landfill Analyser 1-6 Gas					
Weather:	Cloudy with showers					Monitored By:		AA					Serial Number:		13416				
Exploratory Hole No.	Peak		Time to reach steady concentration (secs)	Steady						Peak	Time to reach steady flow (secs)	Steady	Atmospheric Pressure	Water Depth	Elevation	Water Level	Remarks		
	CH ₄	CO ₂		CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Flow Rate		Flow Rate							
	(% vol)	(% vol)		(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(L/hr)		(L/hr)						(mbar)	
CP03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1008	1.1	-	-			
CP04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1008	1.9					
WS05	0.0	1.0	30.0	0.0	1.0	19.8	0.0	0.0	1.0	0.0	15.0	0.0	1008	0.9					
WS06	0.0	2.2	30.0	0.0	2.2	17.8	0.0	0.0	1.0	0.0	15.0	0.0	1008	2.6					
WS07	0.0	0.4	30.0	0.0	0.4	20.5	0.0	0.0	1.0	0.0	15.0	0.0	1008	1.2					
WS101A	0.0	2.0	30.0	0.0	2.0	19.0	0.0	0.0	1.0	0.0	15.0	0.0	1008	1.8					
WS102	0.0	0.0	30.0	0.0	0.0	20.6	0.0	0.0	1.0	0.0	15.0	0.0	1008	0.5					
WS103	0.0	1.0	30.0	0.0	1.0	19.5	0.0	0.0	1.0	0.0	15.0	0.0	1008	2.3					
WS104	0.0	0.0	30.0	0.0	0.0	20.7	0.0	0.0	1.0	0.0	15.0	0.0	1008	0.6					
WS105	17.5	3.0	30.0	17.5	3.0	10.3	0.0	0.0	1.0	0.0	15.0	0.0	1008	1.8					

Background Atmospheric pressure:

	Day -3	Day -2	Day -1	Day 0	Falling, Steady or Rising
Weather Conditions	1017	1013	1010	1008	Falling

Atmospheric pressure obtained from:

http://www.metoffice.gov.uk/weather/uk/uk_latest_pressure.html

Ambient Gas Levels:

	CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Atmospheric Pressure
	(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(mbar)
Before Monitoring	0.0	0.0	20.7	0	0	0.0	1008
After Monitoring	0.0	0.0	20.7	0	0	0.0	1008

1 The peak reading is the maximum recorded level during a monitoring event.

2 The steady reading is the level which remained constant after approximately 1 minute.

ADS Consult

107 Mere Grange Business Park, Leaside, St Helens, WA9 5GG

Tel: 0151 541 4000



Exploratory holes dipped from ground level.

GROUND GAS MONITORING RECORD SHEET

Client:	Network Space					Job No:	11110					Instruments Used:		Gas Analyser, Interface Meter, PID				
Project Name:	Alchemy Way, Knowsley					Date:	15/06/2026					Make / Model:		GFM436 Landfill Analyser 1-6 Gas				
Weather:	Sunny with some clouds					Monitored By:		AA				Serial Number:		13416				
Exploratory Hole No.	Peak		Time to reach steady concentration (secs)	Steady						Peak	Time to reach steady flow (secs)	Steady Flow Rate	Atmospheric Pressure	Water Depth	Elevation	Water Level	Remarks	
	CH ₄	CO ₂		CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Flow Rate								
	(% vol)	(% vol)		(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(L/hr)								
CP03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1013	1.1	-	-		
CP04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1013	1.8				
WS05	0.0	1.1	30.0	0.0	1.1	19.7	0.0	0.0	1.0	0.0	15.0	0.0	1013	1.0				
WS06	0.0	2.5	30.0	0.0	2.5	16.9	0.0	0.0	1.0	0.0	15.0	0.0	1013	2.6				
WS07	0.0	0.4	30.0	0.0	0.4	20.3	0.0	0.0	1.0	0.0	15.0	0.0	1013	1.3				
WS101A	0.0	1.9	30.0	0.0	1.9	19.6	0.0	0.0	1.0	0.0	15.0	0.0	1013	1.7				
WS102	0.0	0.0	30.0	0.0	0.0	20.7	0.0	0.0	1.0	0.0	15.0	0.0	1013	0.5				
WS103	0.0	1.2	30.0	0.0	1.2	18.7	0.0	0.0	1.0	0.0	15.0	0.0	1013	2.3				
WS104	0.0	0.0	30.0	0.0	0.0	20.7	0.0	0.0	1.0	0.0	15.0	0.0	1013	0.7				
WS105	16.8	3.2	30.0	16.8	3.2	11.0	0.0	0.0	1.0	0.0	15.0	0.0	1013	1.7				

Background Atmospheric pressure:

	Day -3	Day -2	Day -1	Day 0	Falling, Steady or Rising
Weather Conditions	1017	1022	1021	1013	Falling

Atmospheric pressure obtained from:

http://www.metoffice.gov.uk/weather/uk/uk_latest_pressure.html

Ambient Gas Levels:

	CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Atmospheric Pressure
	(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(mbar)
Before Monitoring	0.0	0.0	20.7	0	0	0.0	1013
After Monitoring	0.0	0.0	20.7	0	0	0.0	1013

1 The peak reading is the maximum recorded level during a monitoring event.

2 The steady reading is the level which remained constant after approximately 1 minute.

ADS Consult

107 Mere Grange Business Park, Leaside, St Helens, WA9 5GG
Tel: 0151 541 4000



Exploratory holes dipped from ground level.

GROUND GAS MONITORING RECORD SHEET

Client:	Network Space					Job No:	11110					Instruments Used:		Gas Analyser, Interface Meter, PID					
Project Name:	Alchemy Way, Knowsley					Date:	06/07/2026					Make / Model:		GFM436 Landfill Analyser 1-6 Gas					
Weather:	Sunny with some clouds					Monitored By:		AA					Serial Number:		13416				
Exploratory Hole No.	Peak		Time to reach steady concentration (secs)	Steady						Peak	Time to reach steady flow (secs)	Steady	Atmospheric Pressure	Water Depth	Elevation	Water Level	Remarks		
	CH ₄	CO ₂		CH ₄	CO ₂	O ₂	H ₂ S ³	CO ³	PID	Flow Rate		Flow Rate							
	(% vol)	(% vol)		(% vol)	(% vol)	(% vol)	(ppm)	(ppm)	(ppm)	(L/hr)		(L/hr)						(mbar)	(m bgl)
CP03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1017	1.2	-	-			
CP04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1017	1.8					
WS05	0.0	1.1	30.0	0.0	1.1	19.9	0.0	0.0	1.0	0.0	15.0	0.0	1017	1.0					
WS06	0.0	2.6	30.0	0.0	2.6	17.4	0.0	0.0	1.0	0.0	15.0	0.0	1017	2.7					
WS07	0.0	0.3	30.0	0.0	0.3	20.5	0.0	0.0	1.0	0.0	15.0	0.0	1017	1.5					
WS101A	0.0	2.2	30.0	0.0	2.2	20.0	0.0	0.0	1.0	0.0	15.0	0.0	1017	1.8					
WS102	0.0	0.0	30.0	0.0	0.0	20.7	0.0	0.0	1.0	0.0	15.0	0.0	1017	0.7					
WS103	0.0	0.9	30.0	0.0	0.9	18.7	0.0	0.0	1.0	0.0	15.0	0.0	1017	2.7					
WS104	0.0	0.0	30.0	0.0	0.0	20.7	0.0	0.0	1.0	0.0	15.0	0.0	1017	0.7					
WS105	15.6	3.1	30.0	15.6	3.1	11.3	0.0	0.0	1.0	0.0	15.0	0.0	1017	1.9					

Background Atmospheric pressure:

	Day -3	Day -2	Day -1	Day 0	Falling, Steady or Rising
Weather Conditions	1027	1025	1023	1017	Falling

Atmospheric pressure obtained from:

http://www.metoffice.gov.uk/weather/uk/uk_latest_pressure.html

Ambient Gas Levels:

	CH ₄ (% vol)	CO ₂ (% vol)	O ₂ (% vol)	H ₂ S ³ (ppm)	CO ³ (ppm)	PID (ppm)	Atmospheric Pressure (mbar)
Before Monitoring	0.0	0.0	20.7	0	0	0.0	1017
After Monitoring	0.0	0.0	20.7	0	0	0.0	1017

1 The peak reading is the maximum recorded level during a monitoring event.

2 The steady reading is the level which remained constant after approximately 1 minute.

Appendix F

GENERIC ASSESSMENT CRITERIA

Suitable for Use Levels

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park		
	(mg/kg, unless otherwise stated)																	
SOM	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%
Metals/metalloids																		
Arsenic	37			40			43			640			79			170		
Beryllium	1.7			1.7			35			12			2.2			63		
Boron	290			11000			45			240000			21000			46000		
Cadmium	11			85			1.9			190			120			532		
Chromium III	910			910			18000			8600			1500			33000		
Chromium VI	6			6			1.8			33			7.7			220		
Copper	2400			7100			520			68000			12000			44000		
Lead	200			310			80			2330			630			1300		
Mercury (elemental)	1.2			1.2			21			58 (25.8)			16			30 (25.8)		
Mercury (Inorganic)	40			56			19			1100			120			240		
Methylmercury	11			15			6			320			40			68		
Nickel	130			180			53			980			230			800		
Selenium	250			430			88			12000			1100			1800		
Vanadium	410			1200			91			9000			2000			5000		
Zinc	3700			40000			620			730000			81000			170000		
Other																		
Total Sulphate	2,400			2,400			2,400			2,400			2,400			2,400		
Water Soluble Sulphate (g/l)	0.5			0.5			0.5			0.5			0.5			0.5		

Suitable for Use Levels

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park		
	(mg/kg, unless otherwise stated)																	
SOM PAHs	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%
Acenaphthene	210	510	1100	3000 (57) ^S	4700 (141) ^S	6000 (336) ^S	34	85	200	84000 (57) ^S	97000 (141) ^S	100000	15000	15000	15000	29000	30000	30000
Acenaphthylene	170	420	920	2900 (86.1) ^S	4600 (212) ^S	6000 (506) ^S	28	69	160	8300 (86.1) ^S	97000 (212) ^S	100000	15000	15000	15000	29000	30000	30000
Anthracene	2400	5400	11000	31000 (1.17) ^V	35000	37000	380	950	2200	520000	540000	540000	74000	74000	74000	150000	150000	150000
Benzo(a)anthracene	7.2	11	13	11	14	15	2.9	6.5	13	170	170	180	29	29	29	49	56	62
Benzo(a)pyrene	2.2	2.7	3	3.2	3.2	3.2	0.97	2	3.5	35	35	36	5.7	5.7	5.7	11	12	13
Benzo(b)fluoranthene	2.6	3.3	3.7	3.9	4	4	0.99	2.1	3.9	44	44	45	7.1	7.1	7.1	13	15	16
Benzo(g,h,i)perylene	320	340	350	360	360	360	290	470	640	3900	4000	4000	640	640	640	1400	1500	1600
Benzo(k)fluoranthene	77	93	100	110	110	110	37	75	130	1200	1200	1200	190	190	190	370	410	440
Chrysene	15	22	27	30	31	32	4.1	9.4	19	350	350	350	57	57	57	93	110	120
Dibenz(a,h)anthracene	0.24	0.28	0.3	0.31	0.32	0.32	0.14	0.27	0.61	3.5	3.6	3.6	0.57	0.57	0.58	1.1	1.3	1.4
Fluoranthene	280	560	890	1500	1600	1600	52	130	290	23000	23000	23000	3100	3100	3100	63	6300	6400
Fluorene	170	400	860	2800 (30.9) ^S	3800 (76.5) ^S	4500 (183) ^S	27	67	160	63000 (30.9) ^S	68000	71000	9900	9900	9900	20000	20000	20000
Indeno(1,2,3- cd) pyrene	27	36	41	45	46	46	9.5	21	39	500	510	510	82	82	82	150	170	180
Naphthalene	2.3	5.6	13	2.3	5.6	13	4.1	10	24	190 (76.4) ^S	460 (183) ^S	1100 (432) ^S	4900	4900	4900	1200 (76.4) ^S	1900 (183) ^S	3000
Phenanthrene	95	220	440	1300 (36) ^S	1500	1500	15	38	90	22000	22000	23000	3100	3100	3100	6200	6200	6300
Pyrene	620	1200	2000	3700	3800	3800	110	270	620	54000	54000	54000	7400	7400	7400	15000	15000	15000
Coal Tar (BaP as surrogate marker)	0.79	0.98	1.1	1.2	1.2	1.2	0.32	0.67	1.2	15	15	15	2.2	2.2	2.2	4.4	4.7	4.8

Notes

S - S4ULs presented exceed the solubility saturation limit, which is presented in brackets

V - S4ULs presented exceed the vapour saturation limit, which is presented in brackets

Suitable for Use Levels

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park		
	(mg/kg, unless otherwise stated)																	
SOM	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%	1%	2.5%	6%
Benzene	0.087	0.17	0.37	0.38	0.7	1.4	0.017	0.034	0.075	27	47	90	72	72	73	90	100	110
Toluene	130	290	660	880 (869) ^V	1900	3900	22	51	120	56000 (869) ^V	110000 (1920) ^V	180000 (4360) ^V	56000	56000	56000	87000 (869) ^V	95000 (1920) ^V	100000 (4360) ^V
Ethylbenzene	47	110	260	83	190	440	16	39	91	5700 (518) ^V	13000 (1220) ^V	27000 (2840) ^V	24000	24000	25000	17000 (518) ^V	22000 (1220) ^V	27000 (2840) ^V
Xylene – o	60	140	330	88	210	480	28	67	160	6600 (478) ^S	15000 (1120) ^S	33000 (2620) ^S	41000	42000	43000	17000 (478) ^S	24000 (1120) ^S	33000 (2620) ^S
Xylene – m	59	140	320	82	190	450	31	74	170	6200 (625) ^V	14000 (1470) ^V	31000 (3460) ^V	41000	42000	43000	17000 (625) ^V	24000 (1470) ^V	32000 (3460) ^V
Xylene – p	56	130	310	79	180	430	29	69	160	5900 (576) ^S	14000 (1350) ^S	30000 (3170) ^S	41000	42000	43000	17000 (576) ^S	2300 (1350) ^S	31000 (3170) ^S
Aliphatic EC 5-6	42	78	160	42	78	160	730	1700	3900	3200 (304) ^S	5900 (558) ^S	12000 (1150) ^S	570000 (304)	590000	600000	95000 (304) ^S	130000 (558) ^S	180000 (1150) ^S
Aliphatic EC >6-8	100	230	530	100	230	530	2300	5600	13000	7800 (144) ^S	170 (322) ^S	40000 (736) ^S	600000	610000	620000	150000 (144) ^S	220000 (322) ^S	320000 (736) ^S
Aliphatic EC >8-10	27	65	150	27	65	150	320	770	1700	2000 (78) ^S	4800 (190) ^V	11000 (451) ^V	13000	13000	13000	14000 (78)	18000 (190)	21000 (451)
Aliphatic EC >10-12	130 (48) ^V	330 (118) ^V	760 (283) ^V	130 (48) ^V	330 (118) ^V	760 (283) ^V	2200	4400	7300	9700 (48) ^S	23000 (118) ^V	47000 (283) ^V	13000	13000	13000	21000 (48) ^V	23000 (118) ^V	2400 (283) ^V
Aliphatic EC >12-16	1100 (24) ^S	2400 (59) ^S	4300 (142) ^S	1100 (24) ^S	2400 (59) ^S	4300 (142) ^S	11000	13000	13000	59000 (24) ^S	82000 (59) ^S	90000 (142) ^S	13000	13000	13000	25000 (24) ^S	25000 (59) ^S	26000 (142) ^S
Aliphatic EC >16-35	65000 (8.48) ^S	92000 (21) ^S	110000	65000 (8.48) ^S	92000 (21) ^S	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	480000	490000
Aliphatic EC >35-44	65000 (8.48) ^S	92000 (21) ^S	110000	65000 (8.48) ^S	92000 (21) ^S	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	480000	490000
Aromatic EC 5-7	70	140	300	370	690	1400	13	27	57	26000 (1220) ^S	46000 (2260) ^S	86000 (4710) ^S	56000	56000	56000	76000 (1220) ^S	84000 (2260) ^S	92000 (4710) ^S
Aromatic EC >7-8	130	290	660	860	1800	3900	22	51	120	56000 (869) ^V	110000 (1920) ^V	180000 (4360) ^V	56000	56000	56000	87000 (869) ^V	95000 (1920) ^V	100000 (4360) ^V
Aromatic EC >8-10	34	83	190	47	110	270	8.6	21	51	3500 (613) ^V	8100 (1500) ^V	17000 (3580) ^V	5000	5000	5000	7200 (613) ^V	8500 (1500) ^V	9300 (3580) ^V
Aromatic EC >10-12	74	180	380	250	590	1200	13	31	74	16000 (364)	28000 (899)	34000 (2150)	5000	5000	5000	9200 (364)	9700 (899)	10000
Aromatic EC >12-16	140	330	660	1800	2300 (419) ^S	2500	23	27	130	36000 (169) ^S	37000	38000	5100	5100	5000	10000	10000	10000
Aromatic EC >16-21	260	540	930	1900	1900	1900	46	110	260	28000	28000	28000	3800	3800	3800	7600	7700	7800
Aromatic EC >21-35	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7600	7700	7800
Aromatic EC >35-44	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7600	7700	7800
Aromatic EC >44-75	1600	1800	1900	1900	1900	1900	1200	2100	3000	28000	28000	28000	3800	3800	3800	7600	7700	7800

Notes : S - S4ULs presented exceed the solubility saturation limit, which is presented in brackets. V - S4ULs presented exceed the vapour saturation limit, which is presented in brackets

ADS Consult
107 Mere Grange Business Park,
Leaside,
St Helens,
WA9 5GG
Phone: +44 (0) 151 541 4000

ADS Consult is the trading name of ADS Structural Limited registered in England and Wales: Registration number 7888560. VAT registration number 135816606

adsstructural.com