e3p

Validation Report
Mayfield Parks and Plots M, N and O

Reference:14-575-R1-Rev 1
Date: November 2021

REMEDIATION AND ENABLING WORKS VALIDATION

Mayfield Park
Mayfield Parks and Plots M, N and O

Prepared for:
PP O'Connor

Report Ref: 14-575- R1-Rev1
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14-575-006	Schematic Materials Movement – Reused Hard Materials
14-575-007	Well Location Plan
14-575-008	Fill Level Plan
14-575-009	Testing Locations Plan
14-575-010	Unforeseen Items Plan
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Lawnform001	Lawn formation levels total
0001	Lawn fill levels
LWFV001	Lawn fill isocrane schematic
PL001	Playground formation levels total
PL002	Playground fill levels
PAFD001	Playground fill isocrane schematic
WE002	Wetlands levels prior to fill
WE003	Wetlands imported fill levels
WEFD001	Wetlands fill isocrane schematic
MNO001	Plot M,N,O total cut levels
MNO001	Plot M,N,O Fill isocrane schematic
CBR0001	Plot M, N, O CBR Locations
WA001	Archaeology Structures to remain in Wetlands region

1. INTRODUCTION

1.1. BACKGROUND

This report validates remediation and enabling works activities completed at Mayfield Park and Plots M, N & O by PP O'Connor under the supervision of E3P.

The site is located to the southeast of Manchester City Centre, between Manchester Piccadilly Train Station and Mancunian Way. The site location and boundary are shown in Drawing 14-575-001.

E3P were appointed by PP O'Connor as independent Geo-Environmental Consultant for the remediation, preparation / enabling works and the production of a validation report to discharge the relevant planning conditions and satisfy the requirements of Building Control, warranty providers, and statutory service providers.

1.2. PROPOSED DEVELOPMENT

The proposed Mayfield Park site has been subdivided into 6 distinct zones which will be referred to throughout this report and referenced below. The zones and the proposed development are shown in Drawing 14-575-001. A snapshot of the proposed development is illustrated within figure 1.1 below.

- Zone 1 "The Lawns" proposed as a soft landscaped area with grassland, trees and footpaths.
- Zone 2 "The Wildscape" proposed area of landscaped floodwater storage
- Zone 3 "Play Area" proposed as children's play area with an associated maintenance building.
- Zone 4 "Plot O" proposed 8 storey commercial office with basement.
- Zone 5 "Plot N" proposed multi-story carpark
- Zone 6 "Plot M" proposed Commercial office building.

FIGURE 1.1 SNAPSHOT OF PROPOSED DEVELOPMENT



1.3. SUMMARY OF PARTIES INVOLVED

Function/interest	Name of Party
Local Planning Authority	Manchester City Council
Developer	The Mayfield Partnership
Geoenvironmental Consultant	E3P
Main Contractor	PP O'Connor
Remediation/Enabling Works Contractor	PP O'Connor
Human Health Regulator	Manchester City Council
Controlled Waters and Waste Regulator	Environment Agency
Highways Adoption Authority	Manchester City Council
UXO Specialist	PLANIT UXB Limited

1.4. PREVIOUS WORKS

The following previous phases of site investigation and assessment have been completed at the subject site:

- Burohappold Engineering 2017 Mayfield Regeneration Geoenvironmental and Geotechnical Desk Study Report (ref 035548)
- Roc Consulting 2020 Mayfield Park Phase 2 Site Investigation (ref: ROCPLtd/LD/AS/4153-ROC-XX-XX-RP-ES-P2SI R3)
- Roc Consulting 2019 Mayfield Plot M Phase 2 Site Investigation (ref: ROCP Ltd/LD/AS/4153-ROCP- Ltd – LD/AS/P2/23986)
- REC 2019 Phase II Geo-Environmental and Geotechnical Assessment Plots N and O Mayfield, (ref 106841P2R0)

1.5. THE REMEDIATION STRATEGY

The investigations referenced above were utilised to develop the following remediation strategy reports and risk assessments:

- Roc Consulting 2021. Phase 3A Remediation Strategy. Mayfield Park (ref: 4153-ROC-XX-XX-RP-ES--P3RS2)
- Roc Consulting 2021. Phase 3A Remediation Strategy. Plots O, N and M (ref: 4134-ROC-XX-XX-RP-ES-P3RS1)
- Roc Consulting 2021 Technical Note 1.2 Hydrogeology and Groundwater Contamination (ref: 4153-ROC-XX-XX-RP-ES-TN1)
- Supplementary Controlled Waters Risk Assessment - 14-575-L1 - Mayfield Depot - EA Response Letter - October 2021
- 14-575-R1 – Material Management Plan

To assist with obtaining approval from the Environment Agency, the additional leachability criteria contained in the Technical Note on Hydrogeology and Groundwater Contamination were applied as an addendum to both the Parks and the Plots areas.

The above documents should be read in conjunction with this Validation Report.

1.6. LIMITATIONS AND EXCLUSIONS

The valuation report does not include:

- Invasive Species
- Archaeological Mitigation
- Ecological Mitigation

1.7. REGULATORY CORRESPONDENCE

Communication and discussions were held with Manchester City Council (ref: ufm25-Condition 6a 7a 7b 13a and 8 (Partial) Discharge Notice) (ref: CDN_20_0866-DECISION_NOTICE-1661071) and (ref: ufm42) and the Environment Agency throughout the development of the remediation strategy.

Regulatory approvals for the remediation strategy and technical note 1.2 were gained from both the EA and Manchester City Council under planning reference CDN/20/0691, CDN/20/0692 and CDN/20/0690.

Approval for the Supplementary Controlled Waters Risk Assessment was gained by a letter from the EA dated 9th November 2021, ref SO/2020/120643/03-L01.

Correspondence and regulatory approvals are presented within Appendix VII.

1.8. UXO MITIGATION AND SUPERVISION

UXO risks were mitigated under the advice and supervision of Planit UXB Limited.

Explosive Ordnance Safety Awareness Briefings were included as part of site health and safety training and formed part of the Site Health & Safety Plan.

Briefings were conducted by Planit B specialists who provided instruction on the identification of explosive ordnance hazards, actions to take in the event of an incident to protect personnel, key equipment, property, and the public.

Specialists from Planit UXB Limited attended site between dates 15.02.21 and 28.02.21 to provide supervision during earthworks and remediation.

No significant UXO risks were identified during the course of earthworks and remediation.

2. SUPPLEMENTARY INVESTIGATIONS

Supplementary investigations were carried out prior to the commencement of remediation and enabling works which involved the advancement of 21 No trial pits (8 No – The Lawns, 8 No- Play Area and 5 No – The Wildscape). The aims of the supplementary investigations were to confirm the findings of previous investigations and to:

- Obtain information from areas that were previously inaccessible
- Gather further chemical analysis on Made Ground proposed to remain in-situ beneath cover layers
- Assess leachate analysis against the site-specific leachate screening criteria defined within technical note 1.2
- Delineate a source of hydrocarbon contamination in the Play Area
- Obtain supplementary groundwater analysis and monitoring data

Exploratory hole locations are illustrated on E3P Drawing 14-575-009 present within Appendix III and borehole logs are present within Appendix VIII.

I2 Analytical Report- 21-57218 shows that 4no. exceedances were found, WAC analysis was undertaken prior to removal of contaminated soils to an appropriate waste facility. Trial Pit TP107, TP109, TP112 and TP113 identified leachate exceedances in Arsenic, these sample locations were treated as new hotspots and were removed during the enabling works. The hotspot arisings were stockpiled within the play area and removed from site to an appropriate waste facility. The above is discussed further within section 5 of this report.

Supplementary dipping of existing monitoring wells was carried out during the remediation and enabling works. Borehole locations are illustrated on Drawing 14-575-009 appendix III. Groundwater level data is present within Appendix IX. Chemical Analysis of monitoring wells was undertaken, samples were analysed for Speciated PAH, Heavy Metals and TPHCWG to compare to results outlined in the Phase 2 report and to specify the potential risk to controlled waters (I2 Analytical Report- 21-76844, 21-71095, 21-62916).

11 No. historic wells were uncovered during remediation and enabling works (Drawing 14-575-007) supplementary dipping and sampling of well 6 was carried out over a 5-day period. Where the dip of the well was taken and 20m3 of water was then pumped from the well over a period of 17 minutes. Dip measurements were then taken immediately at the end of the pumping and then taken at 5-minute intervals to calculate the recharge rate of the well. Water samples were taken from Wells 6 ,2 and 11 and analysed for Speciated PAH, Heavy Metals and TPHCWG and microanalysis. (I2 Analytical Report-21-72775, Combined Mayfield Depot Water Samples, 21-76851) (Mercian Science Report - 20210603_Mayfield Depot). Chemical results are present within Appendix IV.

6 No. environmental samples were taken from the batter located on the northern boundary of the lawns the aim was to establish if the material is suitable to reuse. 2no. samples (MG-002-LawnBatter and MG-005-LawnBatter (I2 Analytical Report- 21-58285) showed exceedances in lead these two sample locations were treated as new hotspots and was removed as enabling works and arisings was stockpile within the play area section of the site for removal.



3. SUMMARY OF REMEDIATION AND ENABLING WORKS OBJECTIVES

The proposed remediation activities were detailed within the Phase 3A Remediation Strategy. Mayfield Park (ref: 4153-ROC-XX-XX-ES-RP-P3RS2). Phase 3A Remediation Strategy. Plots O, N and M (ref: 4134-ROC-XX-XX-RP-ES-P3RS1) and Technical Note 1.2 Hydrogeology and Groundwater Contamination (ref: 4153-ROC-XX-XX-RP-ES-TN1) supplementary all supporting documents provided by Roc.

Roc Consulting highlight that remediation works will focus on the protection of receptors relating to human health and controlled waters at the proposed developments across Mayfield Park within the Mayfield SRF site.

Remedial measures required with reference to the results of the RoC Consulting Phase 2 site Investigation are as follows:

- Risks posed to future park users arising from Heavy Metal, Poly Aromatic Hydrocarbons and Asbestos Contamination within site soils.
- Risks posed to the underlying Principal Aquifer from elevated concentrations of Heavy Metals and Poly Aromatic Hydrocarbons via the vertical leaching of contaminants.
- Risk posed to both Human Health and the Principal Aquifer from plumes of Total Petroleum Hydrocarbon Contamination identified on-site arising from previous operations.
- Risks posed to surface water receptors (namely the River Medlock) during construction and earth operations.
- Risks posed to other receptors as a result of site conditions namely below ground concrete structures, potable water supply networks etc.

This report has been prepared to document the completion of the remediation and earthworks activities identified in the remediation strategy and to record the presence of any variation in ground conditions or previously unidentified sources of potential contamination, environmental impact, or potential nuisance to the wider environ.

The Remediation and Enabling Works broadly comprised the turnover of the site (0 to 0.60 m), removal of hotspots and the verification of site won made ground before its reuse as fill. The elements are summarised below:

- RE-1 – Removal and validation of leachable heavy metals and polyaromatic hydrocarbon hotspots
- RE-2 – Removal and validation of organic hydrocarbon hotspots
- RE-3 – Testing and validation of made ground to be reused on site.
- RE-4 - Testing and validation of site won crushed aggregate to be reused on site.
- RE-5 - Geotechnical validation
- RE-6 - Unforeseen Items
- RE-7 – Placement and validation of Soil Cover System (Developers Task)

4. DETAILED REMEDIATION AND ENABLING WORKS ACTIVITIES

The focus of the remediation and enabling works are to address the contaminant issues previously identified within the site investigations that presented unacceptable risks to human health and controlled waters following the redevelopment of the site.

For completeness, each of these activities has been discussed below within the context of the actual remediation works that were undertaken on site.

The Remediation & Site Enabling works commenced in February 2021 and were completed in September 2021.

RE-1 – REMOVAL AND VALIDATION OF LEACHABLE HEAVY METAL AND POLYAROMATIC HYDROCARBON HOTSPOTS

DATE OF WORKS UNDERTAKEN
April – July 2021

PHOTOGRAPHS
PLATE 2 - 8

CHEMICAL TESTING
NA

VALIDATION DRAWING
Ref: 14-575-003

OVERVIEW OF WORKS

Leachable concentrations of Heavy Metals and PAH compounds had been identified at the locations indicated on the combined exceedance plan (ref 14-575-003).

The spatial distribution of these contaminants is at random across the site and does not appear to correlate specifically to recent or historic operations, although some clustering was noted particularly in the northern area of the proposed Lawns area.

Where made ground was to remain in situ beneath base of cut level, and where it was safe to excavate to depth, removals were carried out by excavating each hotspot over an area of 5m x 5m to the full depth of Made Ground with photo evidence taken (Plate 2 -8). All contaminated material removed from the excavations was taken to a designated stockpile and disposed off-site.

The Lawns

A total of 8 hotspots were identified within The Lawns as indicated on the combined exceedance plan (ref 14-575-002). Removal of these hotspots was carried out in April 2021.

The Wildscape

One hotspot was located within the Wildscape section of the site as indicated on the combined exceedance plan (ref 14-575-002). This was removed in May 2021 as part of the enabling works in this location.

Play Area

Five hotspots were located within the Play Area as indicated on the combined exceedance plan. Hotspot PH314 and TP302 had exceedances in Lead with PH314 also having an exceedance in Arsenic. These were removed on 23rd April 2021. Hotspot TP109 having an exceedance of lead was removed on 18th May 2021. Remaining hotspots TP032, TP306, WS324 was removed as part of the hydrocarbon source 1 (HC1) excavation.

Plots M, N and O

Four hotspots were located in Plots M, N and O as indicated on the combined exceedance plan. Inorganic Hotspots BH10 and PH303 (Plot O) were removed prior to E3P's involvement. Hotspots TP103 and TP102 both showed to have exceedances in Lead with TP103 also having an exceedance in Arsenic was removed on 4th May 2021.

The full depth of Made Ground deposits in Plots O, M and N were subsequently excavated processed and validated before being reused as fill.

RE-2 – REMOVAL AND VALIDATION OF ORGANIC HYDROCARBON HOTSPOTS

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

PLATE 9-10

VALIDATION DRAWING

Ref: 14-575-004, Lawnform001 and PL001

CHEMICAL TESTING

I2 Analytical Report – HC1 Contaminated Material

21-63563 -Play Area TP119, TP120 and TP121
21-67743 - Play Area TP122.

I2 Analytical Report – HC1 Validation Material

21-76648 –HC1 Base 101 – 112
21-78144 – HC1 N 101-102
– HC1 E 101-102
– HC1 S 101-102
– HC1 W 101-102

I2 Analytical Report – HC3 Validation Material

21-70179 – HC3-Valid – North, East, South, West, Base and Arisings

OVERVIEW OF WORKS

Drawing 14-575-004 shows the three hydrocarbon hotspots which are named Hydrocarbon Source 1, Hydrocarbon Source 2 and Hydrocarbon Source 3.

- **Hydrocarbon Hotspot #1**: Area of TPH impacted soils and perched ground water to the north and east of the site within the Play Area.

- **Hydrocarbon Hotspot #2**: Area of TPH impacted made ground and natural strata relating to a former above ground storage tank situated off site immediately to the south of the proposed Wildscape is location is outside the boundaries for the enabling works, therefore was not remediated.

- **Hydrocarbon Hotspot #3:** Localised area of TPH impacted soils relating to a former above ground storage tank associated with the former Transport for Greater Manchester depot.

Hydrocarbon Source 1 impacted soils (predominantly diesel range organics) were reported during ground investigations with the former City Excavations HGV service yard. The contamination, which is contained in shallow made ground deposits, is believed to relate to historical vehicle servicing operations in this area and has likely occurred as a result of site practice and an absence of hard standing coverage. The contamination is confined within the made ground by a low permeability clay layer that underlies the Play Area; sampling from groundwater within the aquifer and adjacent River Medlock does not indicate any impacts have permeated beyond the made ground material. The clay layer in the affected area was found to vary in thickness between 0.7 and 2.0m with more permeable alluvial sands reported underlying this stratum.

The extent and depth of the removal of contaminated material from each of the HC hotspots, and the locations of validation testing done at the sides and base of each removal is shown in Drawing 14-575 – 004, Lawnform001 and PL001.

Hydrocarbon Source 1 removal commenced on the 18th of May 2021. Removal of Made Ground material was carried out within the predefined area irrespective of visual and sample evidence (21-63563-1, 21-67743-1). Results showed that soil was impacted by hydrocarbons. No perched water was encountered at the base of the made ground therefore, no containing or pumping of impacted water was necessary.

All visual evidence of hydrocarbon material was removed and stockpiled on an impermeable membrane to prevent leaching of contaminative material. Excavation was carried out to reach the natural clay barrier layer. Visual inspection of the natural clay showed no signs of contamination therefore, excavation of 200mm of the top of the natural clay noted within the remediation strategy was not carried out as it was not necessary to potentially compromise the integrity of the natural clay barrier layer if the clay appeared to not have any visual or olfactory evidence of contamination. Validation samples were taken from both the base (21-76648) and walls (21-78144) of the excavation. Samples were analysed for both leachate analysis as well as solid Speciated PAH and TPHCWG to ensure validation of all contaminated material results showed that all hydrocarbon impacted material has been removed. Leachate results showed very slightly elevations in arsenic highest of which found in HC1 S samples at 32µg/l however due to the minor and isolated exceedances it is not considered to pose a risk to controlled waters.

Remediation of Hydrocarbon Source 3 occurred 21st April 2021. Excavation of the hotspot was carried out until reaching natural strata and all visually contaminated material was removed. Validation samples were taken from the base of the excavation; north, east, south and west samples were taken from the walls of the excavation and a single sample was taken from the Hotspots arisings these samples were analysed for Speciated PAH and TPHCWG to ensure remediation of all contaminated material. (21-70179) results showed that all hydrocarbon impacted material was removed.

RE-3 – TESTING AND VALIDATION OF MADE GROUND TO BE REUSED ON SITE

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

PLATE - 11

VALIDATION DRAWING

Ref: 14-575-005, LWFV001, PAFD001 and WEFD001

CHEMICAL TESTING

I2 Analytical Report –Screened reused material Testing.

Lawns

21-59945 - MG-Screenlawn-001 – 003,
21-70768 – MG-Screenlawn-005 – 009,
21-66288, - MG-Screenlawn-004
21-62137 – Riverbank Leachate

Wildscape

21-70768, - WC-Screen-001-002
21-72176 – WC-Screen-003-005

21-69400 - WC-MG101-Screen (crush)

Play Area

21-74218 - BB10 – Screen – 01-02
21-79953 – Plot 1b – 201-203
21-82784 – Plot 1A – 201-202 (crush)

Plot N and O

21-82784 – Plots 1A -203-208 (crush)
21-79953 – Plot 1b – 204-208
21-84334 – Plots 1A 301-304 (crush)
21-84339 – Plots 1b – 301-304
21-79097 – Plots N – 101 – 108
21-79947- Plot 1A -101 – Plot 1A -108 - Crush
21-79953 – Plot 1B - 101 – Plot 1B -108 – Screened Material

Plot M

21-74218 – BB10 - Screen 04-08
21-70768 – BB4- Screen -012
21-57444 - Crush-101 – 102 -NG-ES (crush)
21-76633 - Crush-103 – 105 -NG-ES (crush)

TESTING AND VALIDATION OF MADE GROUND TO BE REUSED ON SITE			
Location	Fill Volume	Number of validation tests	Volume of tested material
Lawn Area	4667 m^3	10	5000 m^3
Wildscape Area	2435 m^3	8	4000 m^3
Playground Area	2631 m^3	7	3500 m^3
Plots M, N, O	14,739 m^3 total	42	21,000 m^3

OVERVIEW OF WORKS

As discussed in the RoC Consulting Phase 2 Site investigation report, sources of soil-borne contamination have been identified across the site that have the potential to impact groundwater quality within the underlying Principal Aquifer. Leachable concentrations of Heavy Metals (Arsenic, Lead, and Chromium) had been identified at locations across the site in exceedance of published. UK DWS screening criteria. The spatial distribution of these contaminants is at random across the site and does not appear to correlate specifically to recent or historic operations, although some clustering is noted particularly in the northern area of the proposed Lawns area.

The proposed earthworks operation will require the excavation and removal of soils across a significant portion of the site and may, at some locations, remove associated hotspots of contamination contained within made ground.

However, there will also be areas where residual made ground deposits remain in situ beneath the proposed park formation level. Whilst the aforementioned soil capping system will break exposure pathways with future park users and maintenance staff, the potential for leachate generation and movement toward the Principal Aquifer will remain an active pollution linkage.

To comply with the requirements of the MMP and the re-use criteria contained in the remediation strategy, made ground excavated and proposed for re-use on site was subject to chemical validation testing before being reused.

Samples were tested at a frequency of 1/ 500m3 for leachate analysis for Arsenic, Chromium(total), Lead, Benzo(a)pyrene and Benzo(a)fluoranthene. Similarly, further soil sampling and leachate analysis was completed in areas where suspected sources of contamination were revealed during earthworks operations. Stockpiles returning exceedances of the re-use criteria were stockpiled separately to await further assessment and potential removal from site.

Drawing FL001 shows volume of fill material placed in each area of the site.

The Lawns

Within The Lawns the excavation volume totalled 11,073 m^3 of which 4,667 m3 was screened and reused as fill in The Lawns. The fill material was derived from demolition of the batter and ramp located on the northern boundary of the site.

The Wildscape

Within the Wildscape the excavation volume totalled 8,012 m^3 of which 2,435 m3 was screened and reused as fill. Fill was derived from material taken out from the excavation of the lawns area.

Play Area

Within the Play Area the excavation volume totalled 8,012 m^3, of which 2,631 m^3 was screened and reused as fill. Fill used in the Play Area was derived from aggregate from plot M and screened material derived from Plots O and N.

Plots M, N and O

Overall total fill volume14,739m m^3. Divided between Plot M (3365 m^3) Plot N (3421 m^3) and Plot 0 (2954 m^3). Material excavated from the plots has been recycled from being taken out during the excavation, screened, and returned to Plots M, N and O and capped with crush material.

RE-4 – TESTING AND VALIDATION OF SITE WON CRUSHED AGGREGATE TO BE REUSED ON SITE

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

PLATE - 11

VALIDATION DRAWING

Ref: 14-575-006

CHEMICAL TESTING

21-57444 – Crush Lawn
21-82784 – Plots 1A -201-208
21-84334 – Plots 1A 301-304
21-79947 – Plot 1A-101 – Plot 1A -108 - Crush
21-79953 – Plot 1B 101 – Plot 1B -108 – Screened Material

OVERVIEW OF WORKS

To comply with the requirements of the MMP and the re-use criteria contained in the remediation strategy, hard materials excavated and proposed for re-use on site were subject to chemical validation testing before being reused.

Materials not meeting the re-use criteria were removed and stockpiled separately and removed from site.

Lawn and Wildscape Area

Hardcore material taken previous ramp located by site located in the Lawn area was taken to the Delaney Process Yard crushed and screened and used as fill with both the Lawn and Wildscape Areas.

Play Area

Concrete slabs taken from dig from Plot M were taken to Delancy Process Yard crushed and used a fill within Hydrocarbon Source 1 located in the Play Area.

Plot M, N and O

Overall total fill volume14,739m m^3. Fill material has been recycled from being taken out during the excavation, screened, crushed, and returned to plots O and N. Hardcore from basement slabs in Wildscape area adjacent to Hoyle Street crushed and used in Plot M. Crushed aggregate conforming to 6F2 was placed across plots M and O in order to provide a suitable working platform design.

Full Analysis of Leachate results can be found in Appendix IV.

RE-5 – GEOTECHNICAL VALIDATION

DATE OF WORKS UNDERTAKEN

Throughout

PHOTOGRAPHS

NA

VALIDATION DRAWING

Ref: Lawnform001, 0001, PL001, PL002, WE002, WE003, MNO001 and CBR0001

CHEMICAL TESTING

PSL Geotechnical Testing Report.
PSL1404

Murray RIX Geotechnical Testing Report.

Made Ground:
MRN 4098-5
MRN 4098-10

Crush:
MRN 4098-18
MRN 4098-5
MRN 4098-19
MRN 4098-27
MRN 4098-28

OVERVIEW OF WORKS

The earthworks during the project were carried out in general accordance with the specifications carried out on ROC's Geotechnical Earthworks specification comprising of the removal of made ground and poor weak soils. Additionally, removal of all below ground obstructions associated with previous phases of development were completed.

All soft spots encountered at the formation level on site were removed until competent strata were encountered. The soft spots were delineated, and suitable granular material was up filled and compacted in accordance with the Specification for Highway Works.

In respect to the park zones Lawn, Wildscape and Play Area site won Made Ground was processed and utilised as a granular upfill. The Made Ground was placed in a manner to ensure a CBR of 5% as stipulated in the Geotechnical Earthworks specification, present in the Remediation and Enabling Works Strategy.

Hand Shear Vane reading were taken in both the play area and plot N at the base of formation where cohesive deposits were present. 18 HSV readings were taken within the natural clay in plot N all HSV reading measured >30kPa. 38 more HSV readings were taken in the Play area. All 38 HSV readings measured >30kPa.

Particle Size Distribution samples were obtained of the site won Made Ground in order to classify the material. Laboratory analysis classified the site won Made Ground as a Class 1B. Laboratory analysis classified the site won crushed aggregate as a Class 1A and 6F2.

Material classified as 1A and 1B have been used a general fill, material was placed in 275mm to 300mm thick layers and compacted via 5000kg vibrating roller with 4 roller passes as per MCHW Series 600.

The plots were upfilled with material classified as 6F2 and 1A placed in 150mm and 275mm thick layers and compacted via 5000kg vibrating roller with 3 and 4 roller passes as per MCHW Series 600.

Piled foundations will be required for the proposed Plot N multi-storey car park, Plot M commercial office building and Plot O proposed 8 storeys commercial office. CBR tests were taken across the final development platforms on a 10m x 10m grid to ensure that a uniform 5% CBR value is provided and maintained over the full extent of the foundation levels. Reduced level excavations were carried out in Plots, M, N & O to remove obstructions.

Plot O in particular was excavated down to bedrock to inspect its capacity to validate the bearing capacity of the horizon works proceed over the extent of influence zone of the basement foundation structure.

CBR testing by plate load was undertaken across the footprints of plots M, N and O (CBR0001). All results shown in excess of 5% ranging from 5%-85%. Results are present within appendix VIII.

RE-6 – UNFORESEEN ITEMS

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRAPHS
Plate 13

VALIDATION DRAWING
Ref: 14-575-010, WA001

CHEMICAL TESTING

Arsenic Leachable Concentrations

I2 Analytical Report –
21-79947- Plot 1A-101 – Plot 1A -108 - Crush
21-79953 – Plot 1B 101 – Plot 1B -108 – Screened Material
21-72177,21-73140 – BB1- Screen -001 - 007 - Stockpile named BB1 (contaminated stockpile)

Hydrocarbon presents located in the Wildscape – Validation Samples

I2 Analytical Report –
21-66628 - HC101-101-P2 & HC1-1-102-P2

Hydrocarbon presents against the culvert retaining wall and Wildscape retaining wall.

I2 Analytical Report –
21-91699-1 – Riverbed-101-WS & Riverbed-102-WS

Decommissioned Tank – Validation

I2 Analytical Report –
21-80774 – Plot M Tank North, South, East, West and Base

OVERVIEW OF WORKS

Arsenic leachate concentration located at the culvert.

The demolition and excavation of the culvert was carried out between April 2021 and June 2021 and material was crushed and screened for potential re-use within the project, however, results show that the material had exceedance in Arsenic (I2 Analytical Report – 21-72177,21-73140, 21-79947 and 21-79953) all material with exceedances in Arsenic and was removed and stockpile within the process yards and named stockpile BB1 awaiting removal from site.

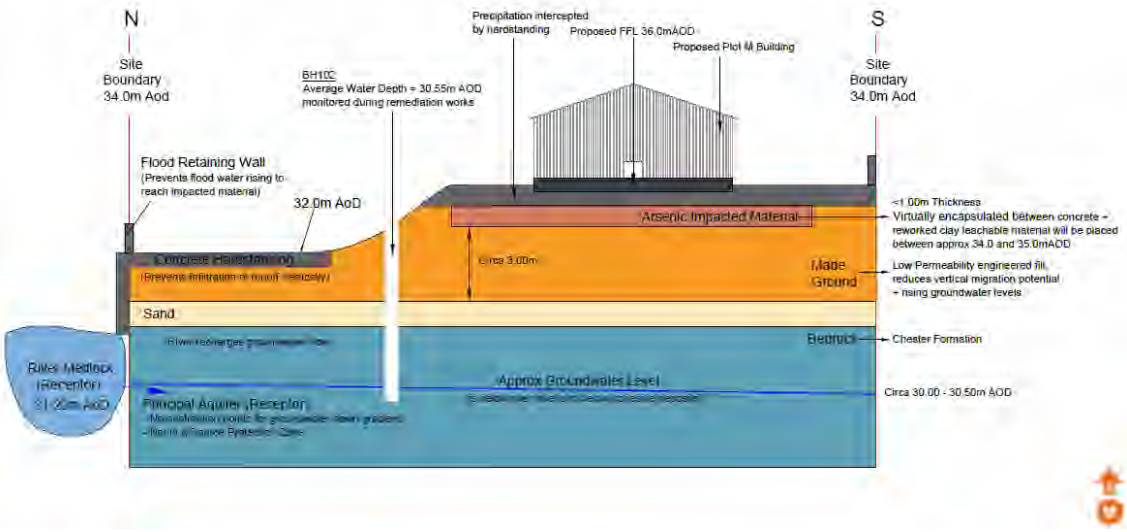
Crush stockpile (I2 Analytical Report – 21-79947) shows slight exceedance in arsenic and was stockpiled within the plots further analysis of this stockpiles showed that this material was suitable for reuse. Screened stockpile located within the plots (I2 Analytical Report – 21-79953) shows slight exceedances in arsenic awaiting further instruction if the material can be reused a supplementary risk assessment was carried out (14-575 - Mayfield Depot - EA Response Letter) which indicates this material can be reused.

The initial Tier 2 DQRA completed by E3P has confirmed that the heavy metal concentrations are unlikely to pose a significant risk to controlled waters given that the site recorded concentrations are generally below the SSRT's derived by the P20 RTM assessment.

Furthermore, when considering the conceptual site model for the site (Figure 4), the soils will be placed above low permeability engineered fill materials and below impermeable surface that is the concrete slab of the proposed building. Therefore, there will be very limited potential for any infiltration to reach the soils and mobilise the arsenic. The low permeability engineered fill will act as a barrier to the vertical migration of contaminants and limited infiltration to the soils will ensure no unacceptable levels of lateral migration occurs.

Should the construction of the development be delayed at any point, an impermeable membrane should be placed across Plot M to ensure no infiltration potential arises as a result of surface water. A slight grading to the membrane towards the river would be beneficial and ensure no pooling of surface water occurs.

POST MATERIAL PLACEMENT CSM



The results of the historical data review, Tier 1 qualitative and preliminary Tier 2 quantitative risk assessment has allowed E3P to draw the following conclusions in respect to the risk to controlled waters:

- There has been sufficient testing of soils at the site during remediation and enabling works;
- The primary receptors are identified as the River Medlock and the underlying principal aquifer. Although there are no recorded groundwater abstraction points down the hydraulic gradient of the site and the site does not lie within a source protection zone, therefore reducing the sensitivity of the aquifer receptor.
- The water level of the River Medlock is above that of the groundwater level at the site. Therefore, the River is likely to recharge the groundwater and not vice versa as shown on the post works CSM;

- Impacted soils should be placed in a layer beneath the building footprint of Plot M at the site, below the construction build up, to ensure it is confined by the concrete floor slab and protected from percolating precipitated water. This will ensure no unacceptable risk of mobilisation and subsequent migration of arsenic occurs at the site from surface water;

- Impacted soils should be placed above the ambient groundwater level so that the material remains unsaturated, to reduce the potential for the mobilisation of arsenic from groundwater.

- An impermeable membrane should be placed across Plot M to ensure no infiltration potential arises as a result of surface water. A slight grading to the membrane towards the river would be beneficial and ensure no pooling of surface water occurs.

Hydrocarbon present within Wildscape area.

Hydrocarbon impacted material was discovered during the excavation of the Wildscape area this material was removed and stockpile in the Play area with other contaminated material awaiting removal validation samples was then taken to ensure all contaminated material has been removed. All results showed no contamination was present (I2 Analytical Report – 21-66628).

Hydrocarbon encountered against the culvert retaining wall.

Hydrocarbon impacted material was discovered during the demolition of the retaining wall located on the culvert and retaining wall located within the Wildscape this material was removed and stockpile in the Play area with other contaminated material awaiting removal validation samples was then taken to ensure all contaminated material has been removed. All results showed no contamination was present (I2 Analytical Report – 21-91699).

Decommissioned Tank located in Plot M.

During the excavated of Plot M, a small 1m x 3m tank was found, the tank was filled with concrete and appeared to be decommissioned. Validation samples of the arisings North, South, East, West and Base of the tank were taken to ensure no residual contamination was present within the resulting void. All results showed no exceedances wer present (I2 Analytical Report – 21-80774).

Decommissioning historic water wells.

A historic plan obtained during remediation and enabling works, indicated the possible presence of 12 water wells. Of these: -

- 4 were treated and capped

- 3 were retained for possible future use

- 1 was dismissed as a double plot after searching revealed no well

- 4 were located beneath substantial depths of cover in areas close to the site boundary where searching was unsafe and impractical

In addition to the 12 listed above an additional well was found in The Plots which was subsequently capped.

Drawing WELL002 illistartes the as built Civic drawings confirming the treatment of each well.

RE-7 – PLACEMENT AND VALIDATION OF SOIL COVER SYSTEM (DEVELOPERS TASK)

OVERVIEW OF WORKS
Placement of impermeable cover / membrane over the leachable arsenic area in Plot M. Further discussion of future build phase validation is present within section 5.

5. POST REMEDIATION BUILD PHASE REQUIREMENTS

This document details the construction works that are required to ensure full compliance with the remediation Strategy, Regulatory Authorities, Building Control & Warranty Providers.

- The following should be implemented during the build phase of the development;
- Laboratory testing of the imported topsoil and subsoil;
- Placement and validation of sub-soil and Topsoil (clean material) in a 600mm layer within soft landscaped within parks areas and 450mm within plots in line with the ROC Remediation strategy Ref 4153-ROC-XX-XX-RP-ES-P3RS2;
- Tree pits are to be dealt with separately later in the scheme.

The validation protocols are presented within the E3P Remediation and Enabling Works Strategy and are presented below.

5.1. PLACEMENT OF COVER SYSTEM

The Remediation and Enabling Works Strategy for the site, with respect to human health of the future site users includes the provision of a chemically suitable clean material to be installed in all landscaped areas; the construction of the clean cover / placement of clean material shall consist of:

- 600mm within parks and
- 450mm within plots

In accordance with the current requirements of the regulatory authorities, validation samples will be collected from all materials that are to be imported or re-used on site to confirm the proposed development will pose no unacceptable risk to human health or the wider environ.

Subsoil and topsoil shall be free of any deleterious materials, such as buildings materials, timber, plastics etc and conform to the requirements of BS 3882:2007.

Initial testing of site won sub-soil to classify its re-use on site has been completed as part of the remediation works undertaken. Therefore, further analysis of sub-soil will be required to achieve the testing frequencies outlined within the remediation strategy and in the event of importation of additional material during construction.

Testing requirements for top-soil and sub-soil are presented in Table 5.1.

TABLE 5.1 SPECIFICATION FOR SOIL TESTING

MATERIAL USE	TESTING FREQUENCY	SUITE OF ANALYSIS
Subsoil Greenfield Source (300 mm Garden Cover)	1 Sample per 200 m^3	A/B/C/D
Subsoil Brownfield Source (300 mm Garden Cover)	1 Sample per 150 m^3	A/B/C/D
Topsoil Greenfield Source (150 mm Garden Cover)	1 Sample per 200 m^3	A/B/C/D

MATERIAL USE	TESTING FREQUENCY	SUITE OF ANALYSIS
Topsoil Brownfield Source (150 mm Garden Cover)	1 Sample per 150 m^3	A/B/C/D

5.1.1. PROCEDURE FOR PLACEMENT OF CHEMICALLY SUITABLE COVER SYSTEM

Landscaped areas need to be provided with a simple cover systems comprising chemically validated subsoil, and topsoil. Topsoil is required to be confirmed as chemically suitable prior to placement. Where sub-soil is not placed during Remediation & Enabling works, E3P will be required to return to site and undertake independent validation of the correct placement of sub-soil. This will be undertaken during the build phase works of the project.

The placement of subsoil and corresponding validation will be documented within the Landscaping Validation Letters (to be issued on completion of the contractor's works).

If proposed utilities are to be placed within the cover system, the clean cover should be placed prior to installation of these utilities.

E3P will collect photographic evidence of the placement of the cover system on completion of construction works. This element will also be checked by the Building Control and Environmental Health Officer as part of the site completion.

The garden validation procedure is detailed in Table 5.2.

TABLE 5.2 GARDEN VALIDATION PROCEEDURE

PROCEDURE	METHOD
Chemical Validation	Imported sub-soils and topsoil will need to be chemically analysed to confirm suitability for use with the proposed cover system prior to installation and completion of the cover systems. If acceptable the materials can be installed to the required depth at which time the plot will be deemed complete following a validation procedure by a suitability qualified E3P engineer.
Trial Holes **Validation**	Trial holes are deemed necessary for the all plots given that the 450mm cover system will need to be placed on each plot during the build phase. Photographic evidence will be taken by E3P of the topsoil and subsoil placement demonstrating the depth of topsoil and practical completion of works are required.
Validation Certificate	Once the photographs of the placement have been provided, E3P will issue a plot specific validation certificate to demonstrate that the required subsoil and topsoil has been placed in the required landscaping areas along with the chemical analysis.
Completion Report	Upon completion of all landscaped areas within the development, a Completion Report will be issued providing the confirmation that all remediation requirements have been achieved.

Plate 1 provides an example of a garden validation photographs that will be required for each plot.

PLATE 1 EXAMPLE PLOT COVER SYSTEM VALIDATION

Plot No: 4 (Car Park Landscaping)		
Depth of Strata (m bgl)	0.00-0.30	Validated TOPSOIL
Depth of Cover System Materials	***Depth of Cover System Materials***	
		
Depth of Cover System at Ground Level and in Relation to Unit / Structure		
		

5.2. POTABLE WATER SUPPLY – PROTECTA-LINE BARRIER PIPE

As stated in point 3.6.1 with remediation strategy; Roc Consulting 2021. Phase 3A Remediation Strategy. Mayfield Park (ref: 4153-ROC-XX-XX-RP-ES–P3RS2). Elevated levels of contaminants have been identified that poses a risk to drinking water supply pipes. At time of writing protecta-line barrier pipe is being installed for the water supply pipes which can be seen in plate 14.



6. CONCLUSION

The remediation elements identified within the approved Remediation and Enabling Works Strategy have been completed with validation testing confirming that the works have been completed to the required standard.

As part of the on-going construction works the developer will be required to construct and validate the items listed below in strict accordance with the requirements of the regulatory authorities as documented in detail within this report.

Placement of clean cover of subsoil and topsoil in all landscaped areas, comprising:

- 600mm within the parks and
- 450mm within the plots
- Independent validation of the cover system by a suitably qualified E3P engineer.
- Gas measures in plots M,N and O
- Provision a suitable water supply infrastructure.

END OF REPORT

APPENDIX I
LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the Client as indicated in Section 1.2.

2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.

3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.

4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.

5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.

6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.

8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.

10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

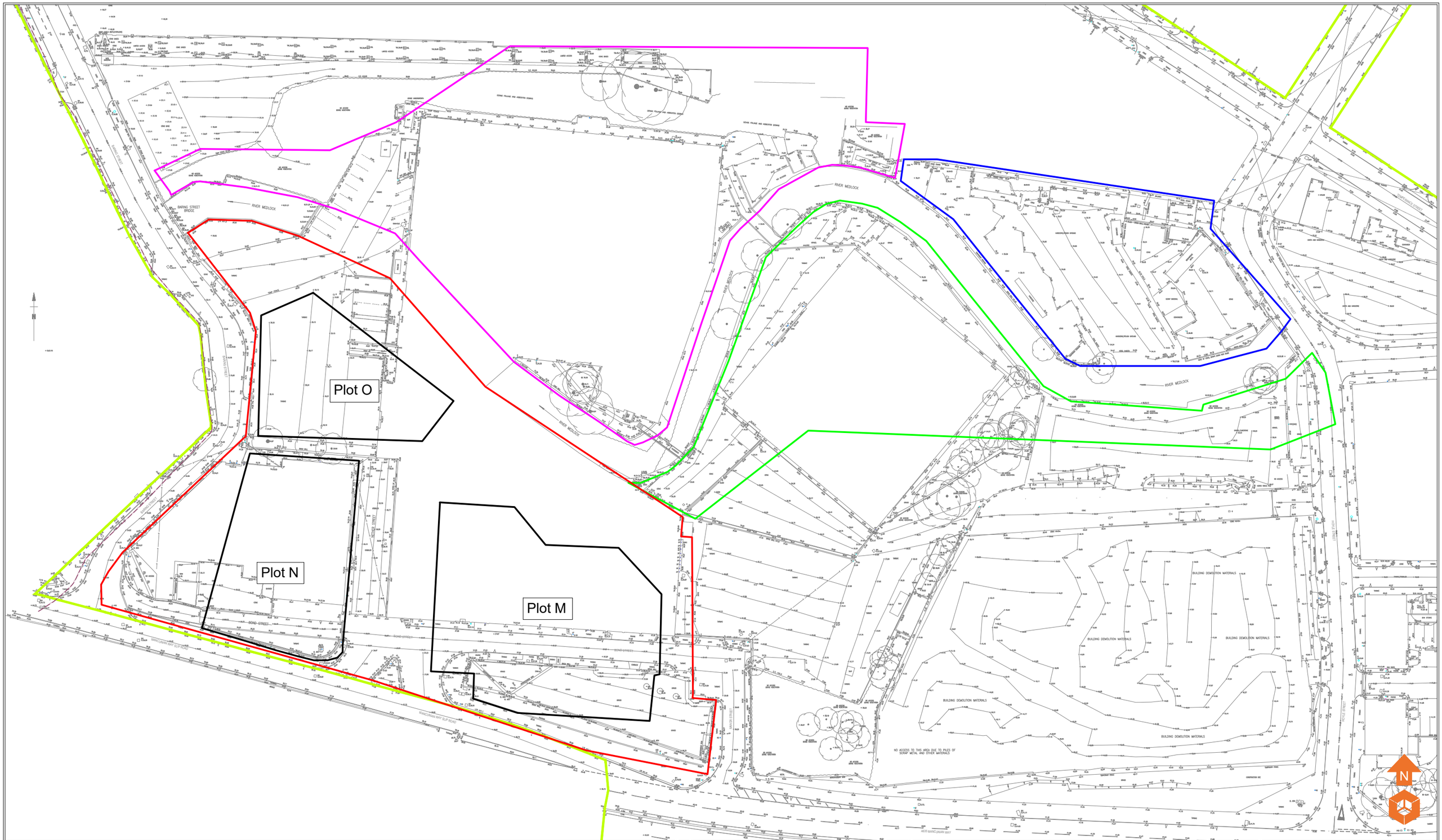
APPENDIX II
GLOSSARY

TERMS

ACM	Asbestos-containing material	**MMP**	Materials management plan
ADS	Acoustic design statement	**ND**	Not detected
AST	Above-ground storage tank	**NDP**	Nuclear density probe
BGS	British Geological Survey	**NMP**	Noise management plan
BSI	British Standards Institute	**NPSE**	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	**NR**	Not recorded
CA	Coal Authority	**PAH**	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	**PCB**	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	**PI**	Plasticity index
CIRIA	Construction Industry Research Association	**PID**	Photo ionisation detector
CLEA	Contaminated land exposure assessment	**POS**	Public open space
CML	Council of Mortgage Lenders	**PPE**	Personnel protective equipment
CoC	Contaminants of concern	**ProPG**	Professional practice guidance
CSM	Conceptual site model	**QA**	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	**SGV**	Soil guideline value
DWS	Drinking water standard	**SPH**	Separate-phase hydrocarbon
EA	Environment Agency	**SPT**	Standard penetration test
EQS	Environmental quality standard	**SVOC**	Semi-volatile organic compound
FFL	Finished floor level	**TPH**	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	**TPH CWG**	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	**UKWIR**	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	**UST**	Underground storage tank
HCV	Health criteria value	**VCC**	Vibro-concrete column
ICSM	Initial conceptual site model	**VOC**	Volatile organic compound
LEL	Lower explosive limit	**VRSC**	Vibro-replacement stone columns
LMRL	Lower method reporting limit	**VSC**	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	**WHO**	World Health Organisation
MCV	Moisture condition value	**WRAP**	Waste and Resources Action Programme
MIBK	Methyl isobutyl ketone	**WTE**	Water table elevation

m	Metres	**ppm**	Parts per million
km	Kilometres	**mg/m^3**	Milligram per metre cubed
% v/v	Percent volume in air	**m bgl**	Metres below ground level
mb	Millibars (atmospheric pressure)	**m bcl**	Metre below cover level
l/hr	Litres per hour	**mAOD**	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	**kN/m^2**	Kilonewtons per metre squared
ppb	Parts per billion	**µm**	Micrometre
mg/kg	Milligrams per kilogram (parts per million)	**SSRT**	Site Specific Remediation Target
PSD	Particle Size Distribution	**DD**	Dry Density
CL:AIRE	Contaminated Land: Applications in Real Environments	**Mc**	Moisture Content
ρ	Bulk Density	**GPR**	Ground Penetrating Radar
NDP	Nuclear Density Probe	**FFL**	Finished Floor Level
LEL	Lower Explosive Limit	**UKWIR**	UK Water Industry Research
CIRIA	Construction Industry Research and Information Association	**LOD**	Limit of Detection

APPENDIX III
E3P DRAWINGS



Site Boundary

- The Lawns
- Play Area
- The Wildscape
- Plots M, N and O

Notes:

P1	REVA	12.08.2021	CB	NG
Phase	Issue	Date	Drawn	Checked

Client: PP O'Connor

Job No: 14-575

Date: 12.08.2021

Drawing No: 006

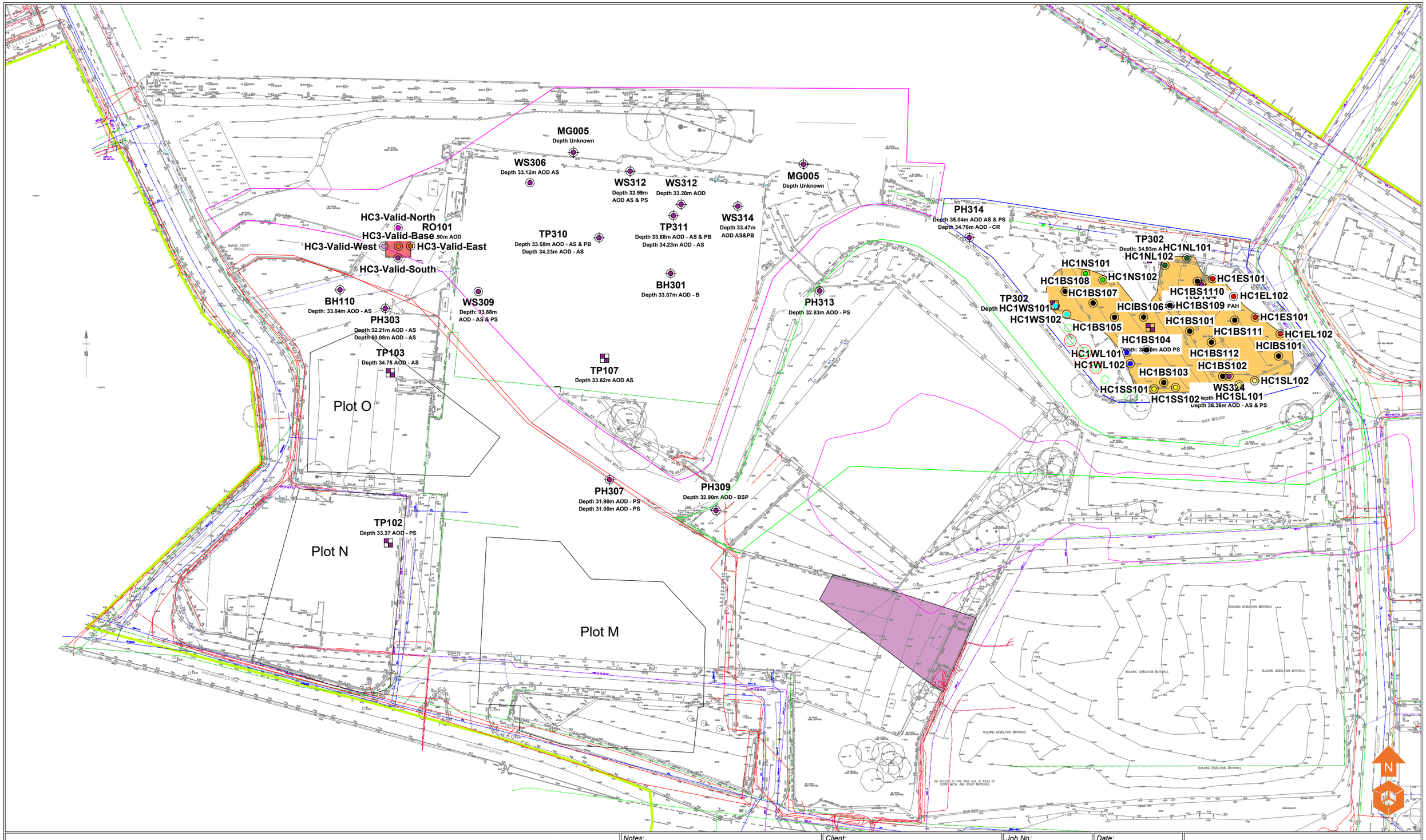
Scale: NTS

Job Title: Mayfield Depot

Drawing Title: Site Boundary Plan

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Website: www.e3p.co.uk

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Organic Location Symbols

- Approximate Hydrocarbon 1 West Soil Sample
- Approximate Hydrocarbon 1 West Leachate Sample
- Approximate Hydrocarbon 1 North Soil Sample
- Approximate Hydrocarbon 1 North Leachate Sample
- Approximate Hydrocarbon 1 East Soil Sample
- Approximate Hydrocarbon 1 East Leachate Sample
- Approximate Hydrocarbon 1 South Soil Sample
- Approximate Hydrocarbon 1 South Leachate Sample
- Approximate Hydrocarbon 1 Base Leachate Sample
- Approximate Hydrocarbon 3 North Sample
- Approximate Hydrocarbon 3 East Sample
- Approximate Hydrocarbon 3 South Sample
- Approximate Hydrocarbon 3 West Sample
- Approximate Hydrocarbon 3 Base Sample

Inorganic Location Symbols

- Exceedance of Tier 1 Groundwater values with details
- Exceedance of Tier 1 Groundwater values with details
- Exceedance of Tier 1 Groundwater values with details

Hotspots

- Hotspot One
- Hotspot Two
- Hotspot Three

Boundarys

- The Lawns
- Play Area
- The Wildscape
- Plots M, N & O

Notes:

Client: PP O'Connor

Job No: 14-575

Date: 02.10.2021

Drawing No: 002

Scale: NTS

P1	REVA	02.10.2021	LM	NG
Phase	Issue	Date	Drawn	Checked

Job Title: Mayfield Depot

Drawing Title: Inorganic and Organic Hotspot Location Plan

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MG005
Depth Unknown

WS306
Depth 33.12m AOD AS

WS312
Depth 32.99m AOD AS & PS

WS312
Depth 33.20m AOD

MG005
Depth Unknown

PH314
Depth 35.04m AOD AS & PS
Depth 34.76m AOD - CR

WS314
Depth 33.47m AOD AS&PB

RO101
Depth 33.90m AOD

TP310
Depth 33.58m AOD - AS & PB
Depth 34.23m AOD - AS

TP311
Depth 33.88m AOD - AS & PB
Depth 34.23m AOD - AS

TP302
Depth: 34.93m AOD PS

BH301
Depth 33.87m AOD - B

BH110
Depth: 33.84m AOD - AS

WS309
Depth: 33.88m AOD - AS & PS

PH303
Depth 32.21m AOD - AS
Depth 30.08m AOD - AS

PH313
Depth 32.83m AOD - PS

TP302
Depth: 33.07m AOD PS

RO104
Depth 34.43mAOD PS & PAH

TP103
Depth 34.75 AOD - AS

TP305
Depth: 34.60m AOD PS

TP107
Depth 33.62m AOD AS

WS324
Depth 36.75m AOD - PS
Depth 36.36m AOD - AS & PS

Plot O

PH307
Depth 31.90m AOD - PS
Depth 31.00m AOD - PS

PH309
Depth 32.90m AOD - BSP

TP102
Depth 33.37 AOD - PS

Plot N

Plot M

Hotspots

- Exceedance of Tier 1 Groundwater values with details
- Exceedance of Tier 1 Groundwater values with details
- Exceedance of Tier 1 Groundwater values with details

Boundarys

- The Lawns
- Play Area
- The Wildscape
- Plots M, N & O

Notes:

Client: PP O'Connor

Job No: 14-575

Date: 02.10.2021

Drawing No: 003

Scale: NTS

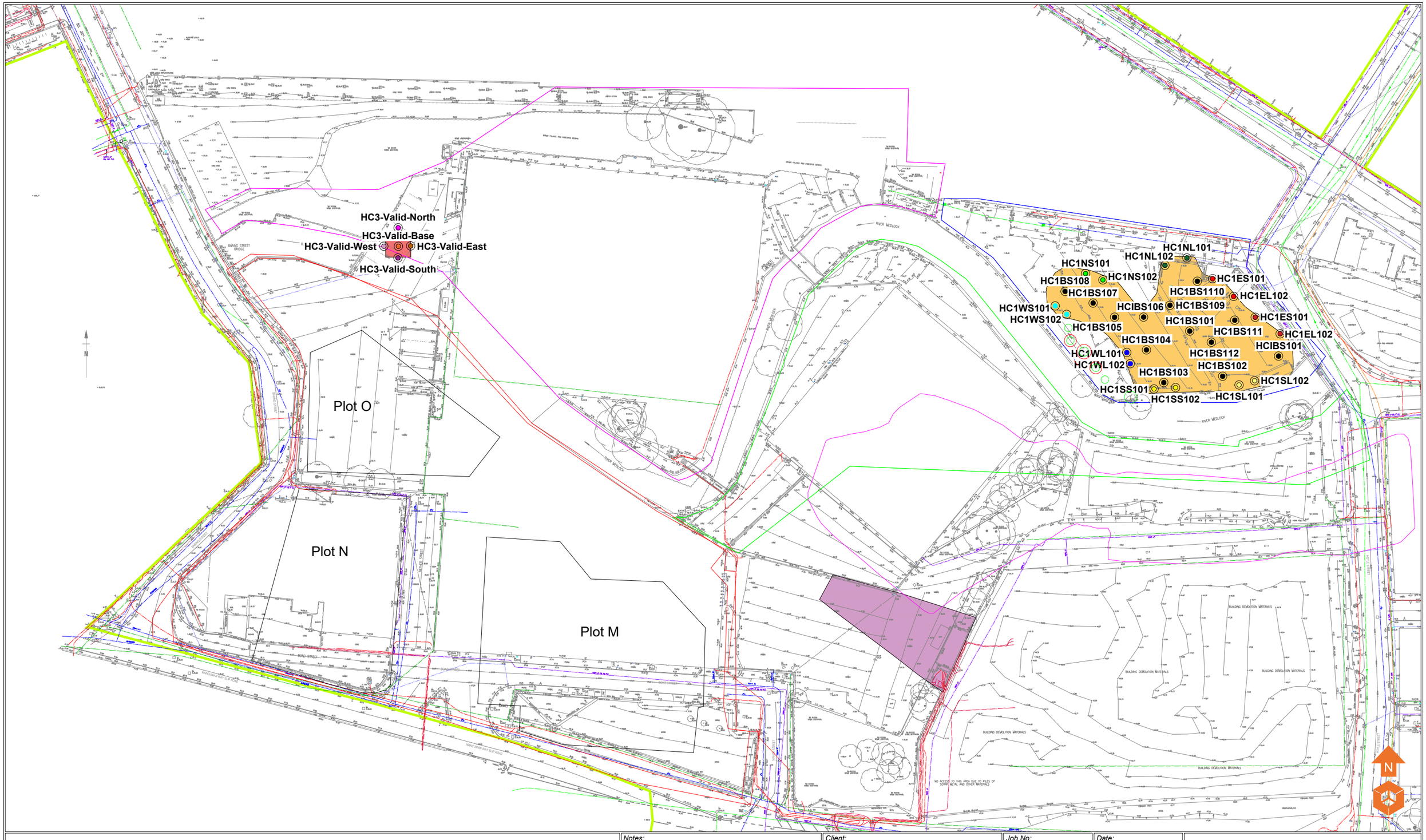
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P1	REVB	24.06.2021	EB	NG
P1	REVA	03.06.2021	LM	NG
Phase	Issue	Date	Drawn	Checked

Job Title: Mayfield Depot

Drawing Title: Inorganic Hotspot Location Plan

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Location Symbols

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- Approximate Hydrocarbon 1 West Leachate Sample
- Approximate Hydrocarbon 1 North Soil Sample
- Approximate Hydrocarbon 1 North Leachate Sample
- Approximate Hydrocarbon 1 East Soil Sample
- Approximate Hydrocarbon 1 East Leachate Sample
- Approximate Hydrocarbon 1 South Soil Sample
- Approximate Hydrocarbon 1 South Leachate Sample
- Approximate Hydrocarbon 1 Base Leachate Sample
- Approximate Hydrocarbon 3 North Sample
- Approximate Hydrocarbon 3 East Sample
- Approximate Hydrocarbon 3 South Sample
- Approximate Hydrocarbon 3 West Sample
- Approximate Hydrocarbon 3 Base Sample

Hotspots

- Hotspot One
- Hotspot Two
- Hotspot Three

Boundarys

- The Lawns
- Play Area
- The Wildscape
- Plots M, N & O

Notes:

Phase	Issue	Date	Drawn	Checked
P1	REVC	02.10.2021	LM	NG
P1	REVB	24.06.2021	EB	NG
P1	REVA	03.06.2021	LM	NG

Client: PP O'Connor

Job Title: Mayfield Depot

Job No: 14-575

Date: 02.10.2021

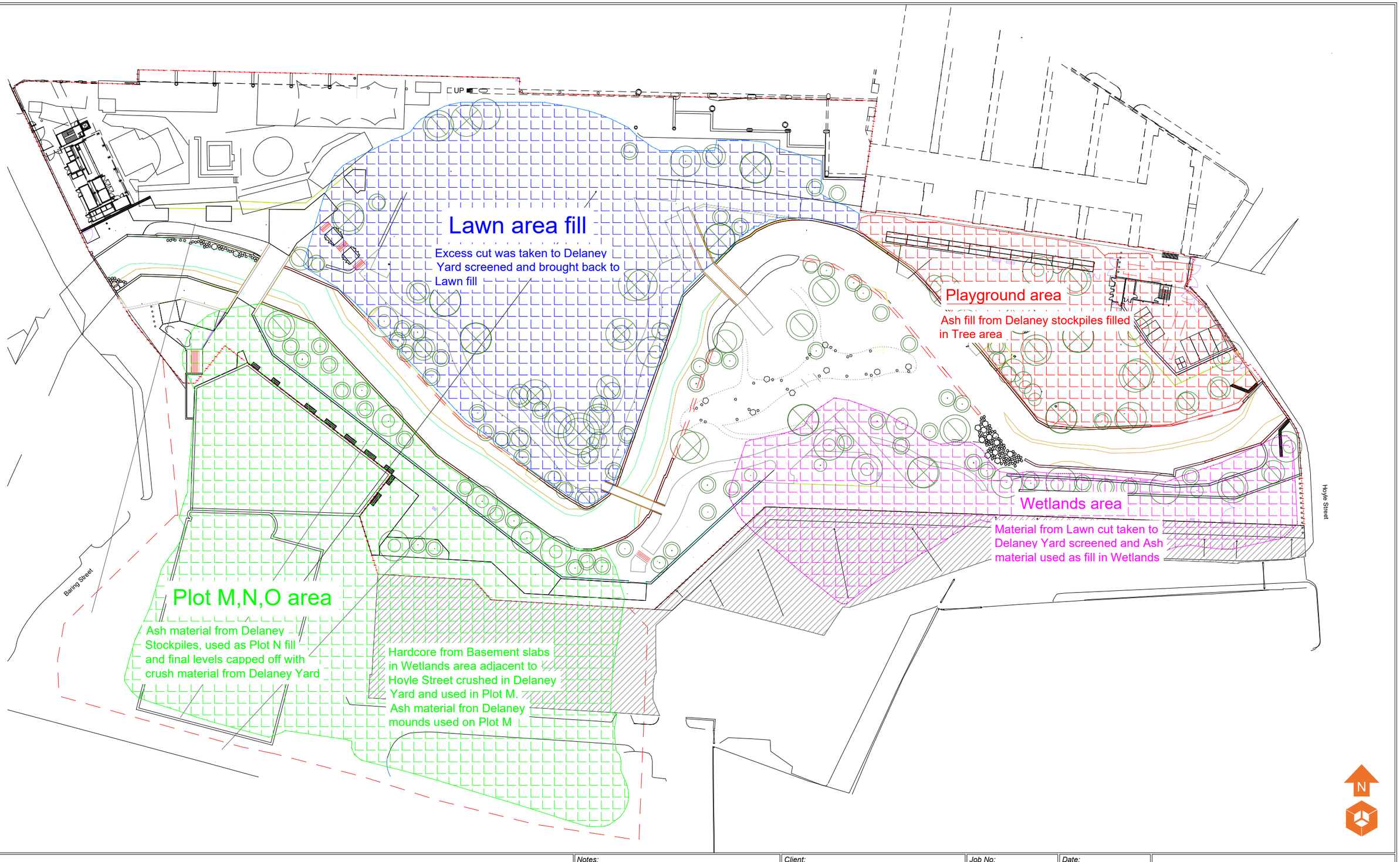
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Drawing Title: Organic Hotspot Location Plan

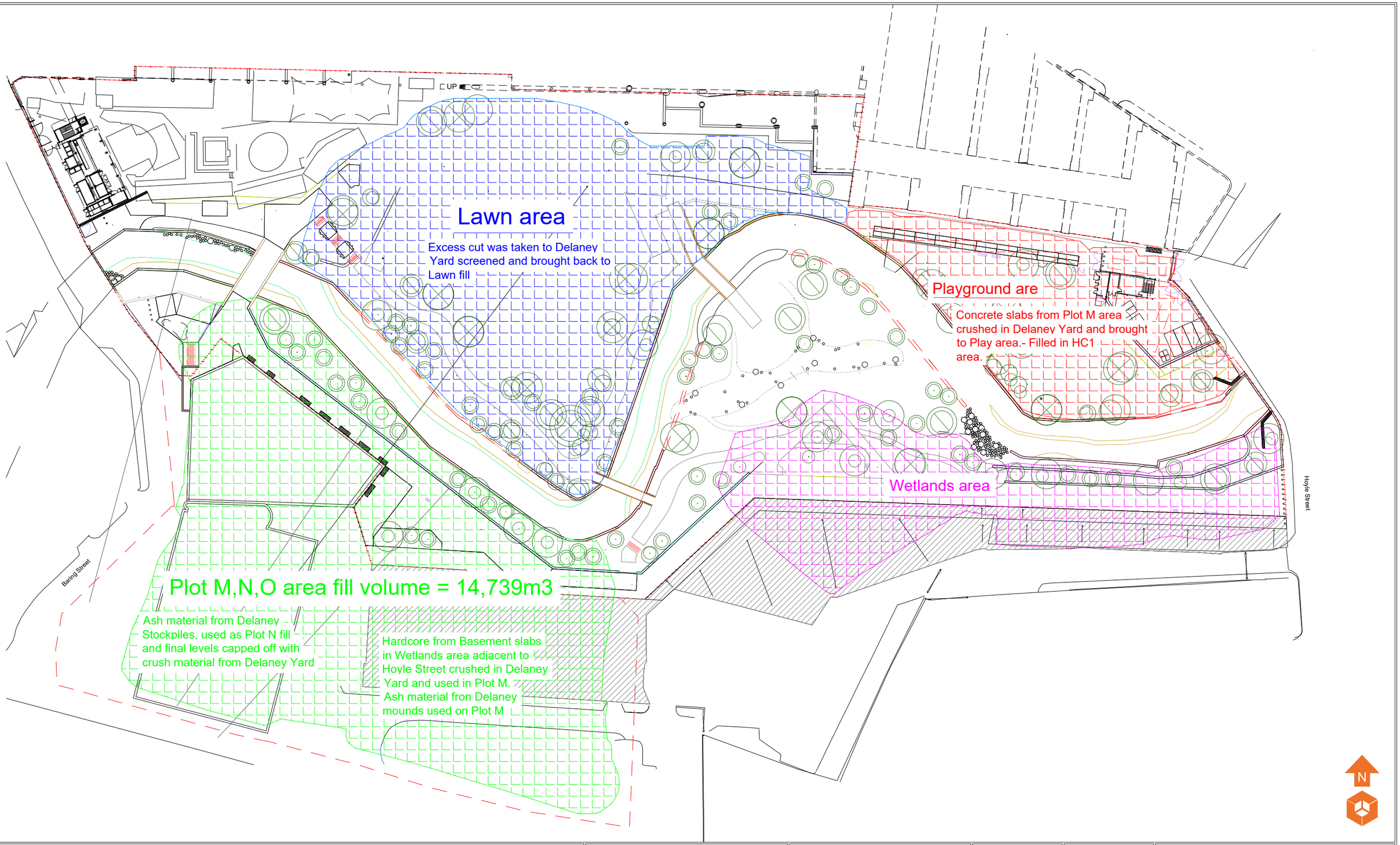
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	Notes:		Client: PP O'Connor	Job No: 14-575	Date: 02.10.2021	Environmental Engineering Partnership Ltd Taylor Road, Trafford Park Urmston, Manchester, M41 7JQ Tel: 0161 707 9612 E-mail: info@e3p.co.uk Website: www.e3p.co.uk
				Drawing No: 005	Scale: NTS	
	P1 / Phase	REVA / Issue	02.10.2021 / Date	LM / Drawn	NG / Checked	Job Title: Mayfield Depot
						Drawing Title: Schematic Materials Movement - Reused Made Ground

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P1	REVA	02.10.2021	LM	NG
Phase	Issue	Date	Drawn	Checked

Notes:

Client: PP O'Connor

Job No: 14-575

Date: 02.10.2021

Drawing No: 006

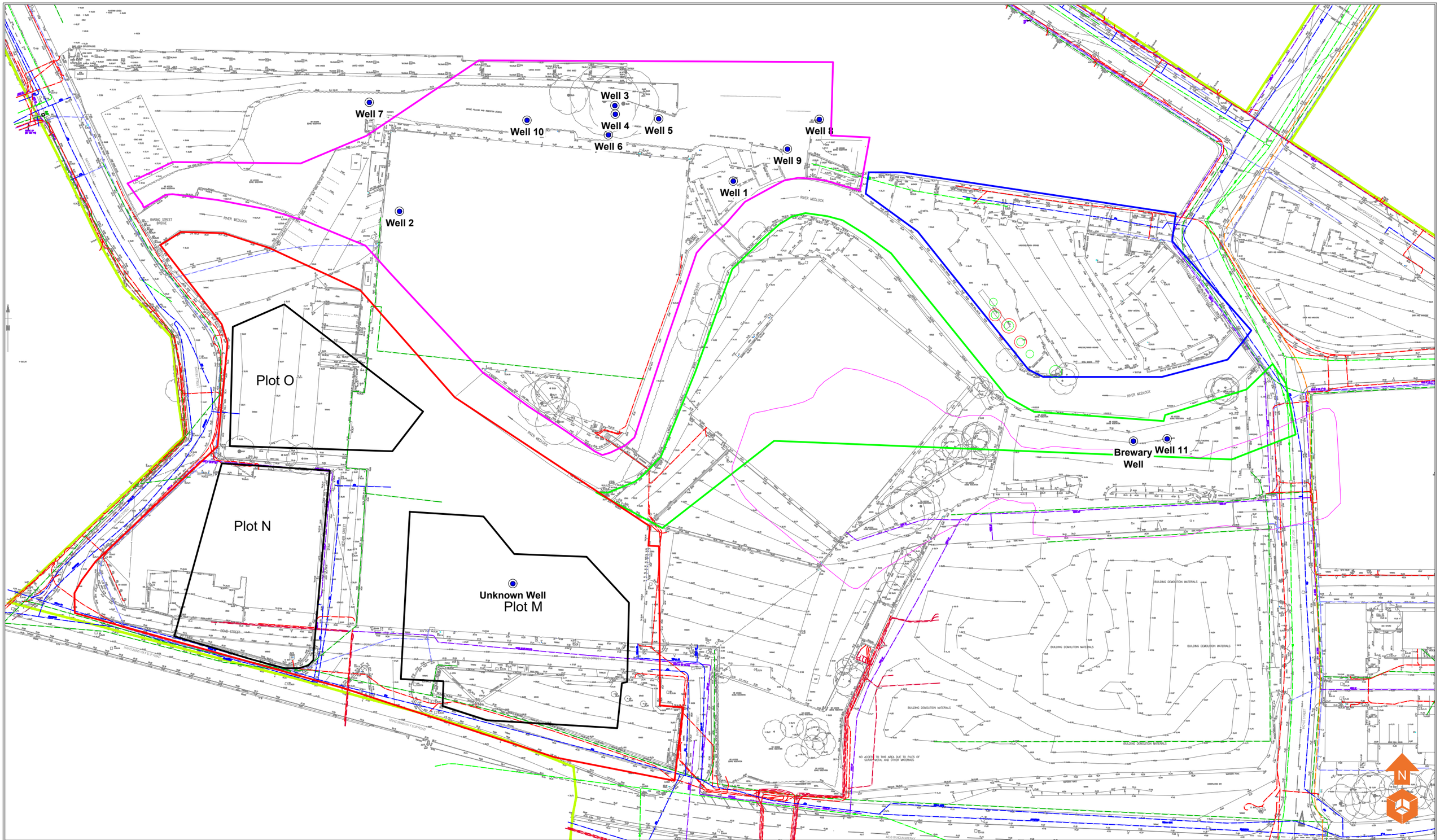
Scale: NTS

Job Title: Mayfield Depot

Drawing Title: Schematic Materials Movement - Reused Hard Materials

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Location Symbols

WELL01 Approximate Historic Well Location

Boundarys

- The Lawns
- Play Area
- The Wildscape
- Plots M, N & O

Notes:

Phase	Issue	Date	Drawn	Checked
P1	REVC	26.11.2021	EB	NG
P1	REVB	02.11.2021	LM	NG
P1	REVA	03.06.2021	LM	NG

PP O'Connor

14-575

26.11.2021

Drawing No: 007

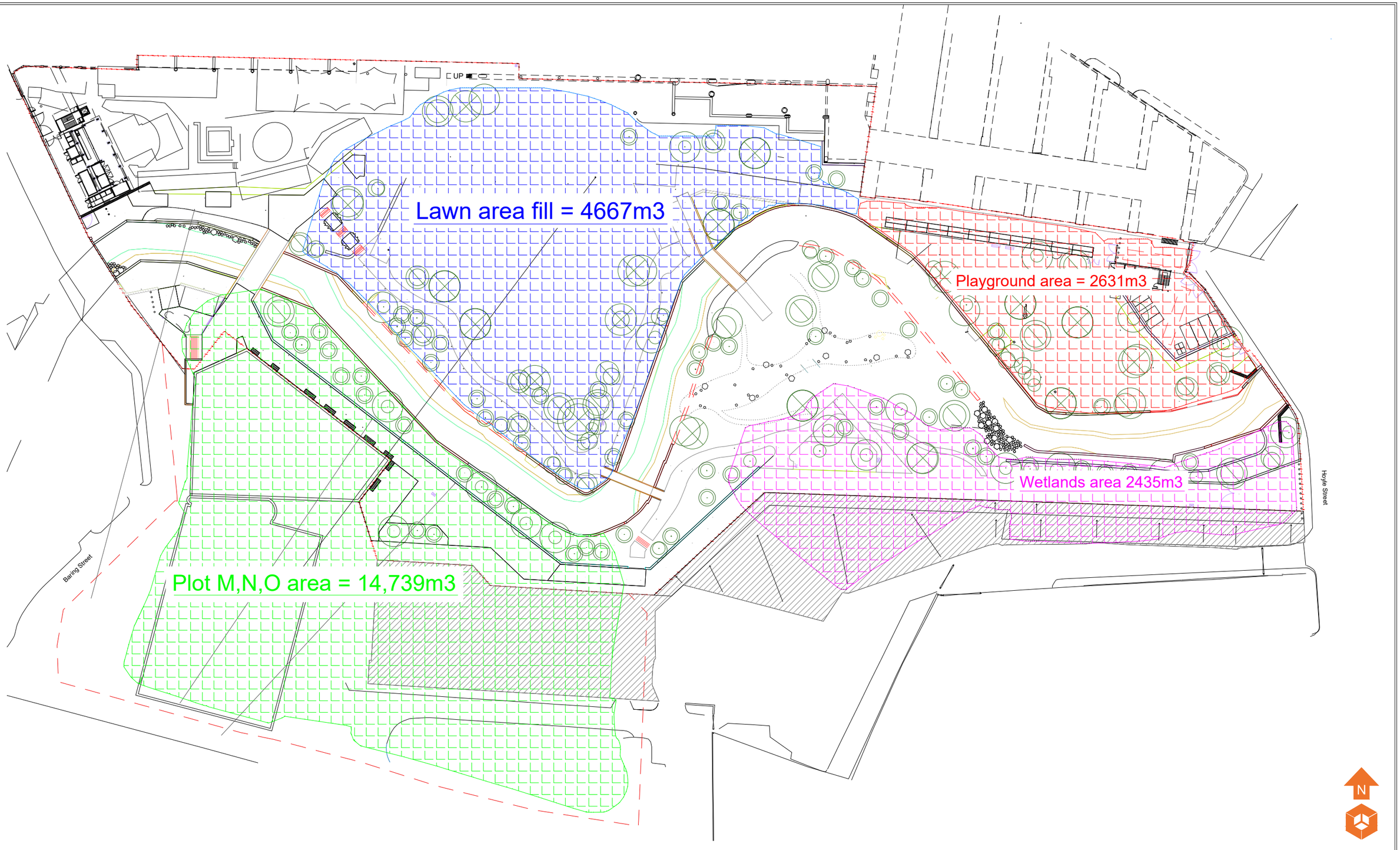
Scale: NTS

Job Title: Mayfield Depot

Drawing Title: Historic Well Location Plan

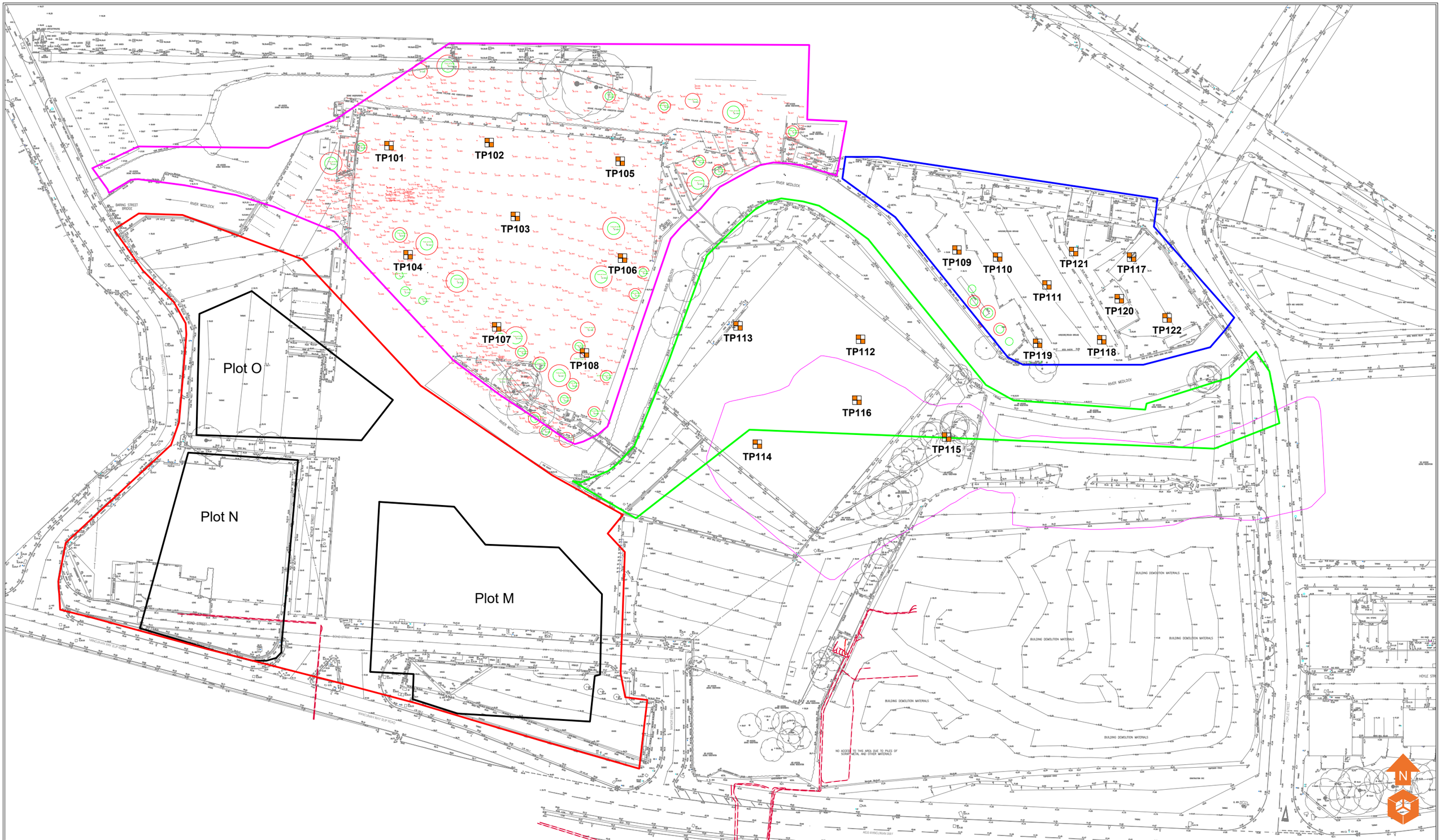
e3p
Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.



	Notes:		Client: PP O'Connor	Job No: 14-575	Date: 02.11.2021	Environmental Engineering Partnership Ltd Taylor Road, Trafford Park Urmston, Manchester, M41 7JQ Tel: 0161 707 9612 E-mail: info@e3p.co.uk Website: www.e3p.co.uk	
				Drawing No: 008	Scale: NTS		
	P1	REVA	02.11.2021	LM	NG	Job Title: Mayfield Depot	Drawing Title: Fill Level Plan
	Phase	Issue	Date	Drawn	Checked		

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Location Symbols

- Approximate Historic Well Location
- Approximate Trial Pit Location

Notes:

P1	REVA	26.11.2021	EB	NG
Phase	Issue	Date	Drawn	Checked

Client: PP O'Connor

Job No: 14-575

Date: 26.11.2021

Drawing No: 009

Scale: NTS

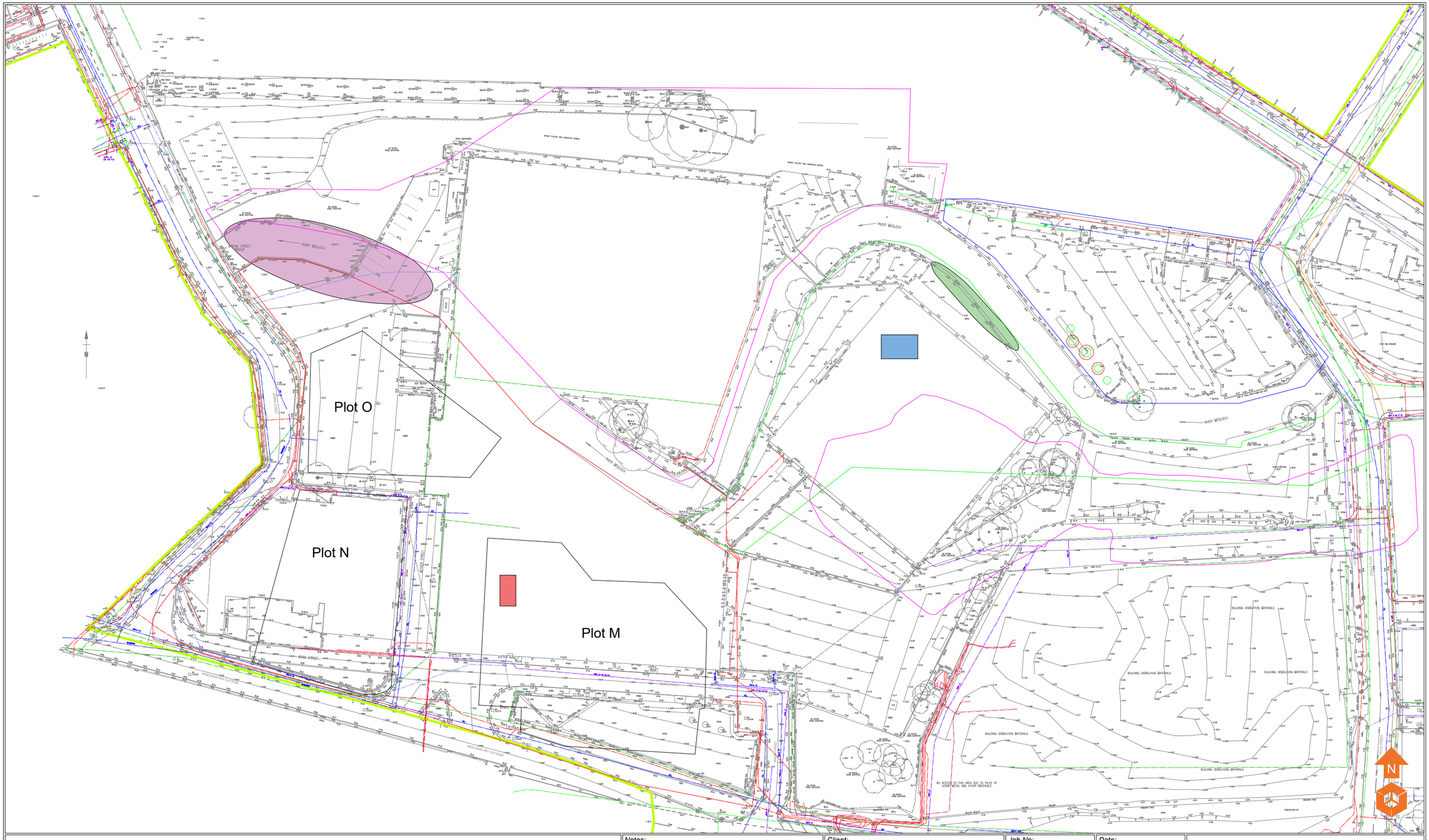
Job Title: Mayfield Depot

Drawing Title: Supplementary Trial Pit Location Plan

e3p

Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

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Boundarys

- The Lawns
- Play Area
- The Wildscape
- Plots M, N & O

Unforseen Items

- Decomissioned Tank Location
- Arsenic Leachability Concentration
- Hydrocarbon present within wildscape area
- Hydrocarbon present against Culvert retaining wall

Notes:

Client: PP O'Connor

Job No: 14-575

Date: 02.10.2021

Drawing No: 010

Scale: NTS

P1	REVA	02.11.2021	LM	NG
Phase	Issue	Date	Drawn	Checked

Job Title: Mayfield Depot

Drawing Title: Unforseen Items Plan

Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
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Website: www.e3p.co.uk

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APPENDIX IV
THIRD PARTY DRAWINGS

NOTES

1. Do not scale from this drawing.

LAWN CUT VOLUME= 8303.44m3

REV	DATE	REVISION DETAILS	INITIALS

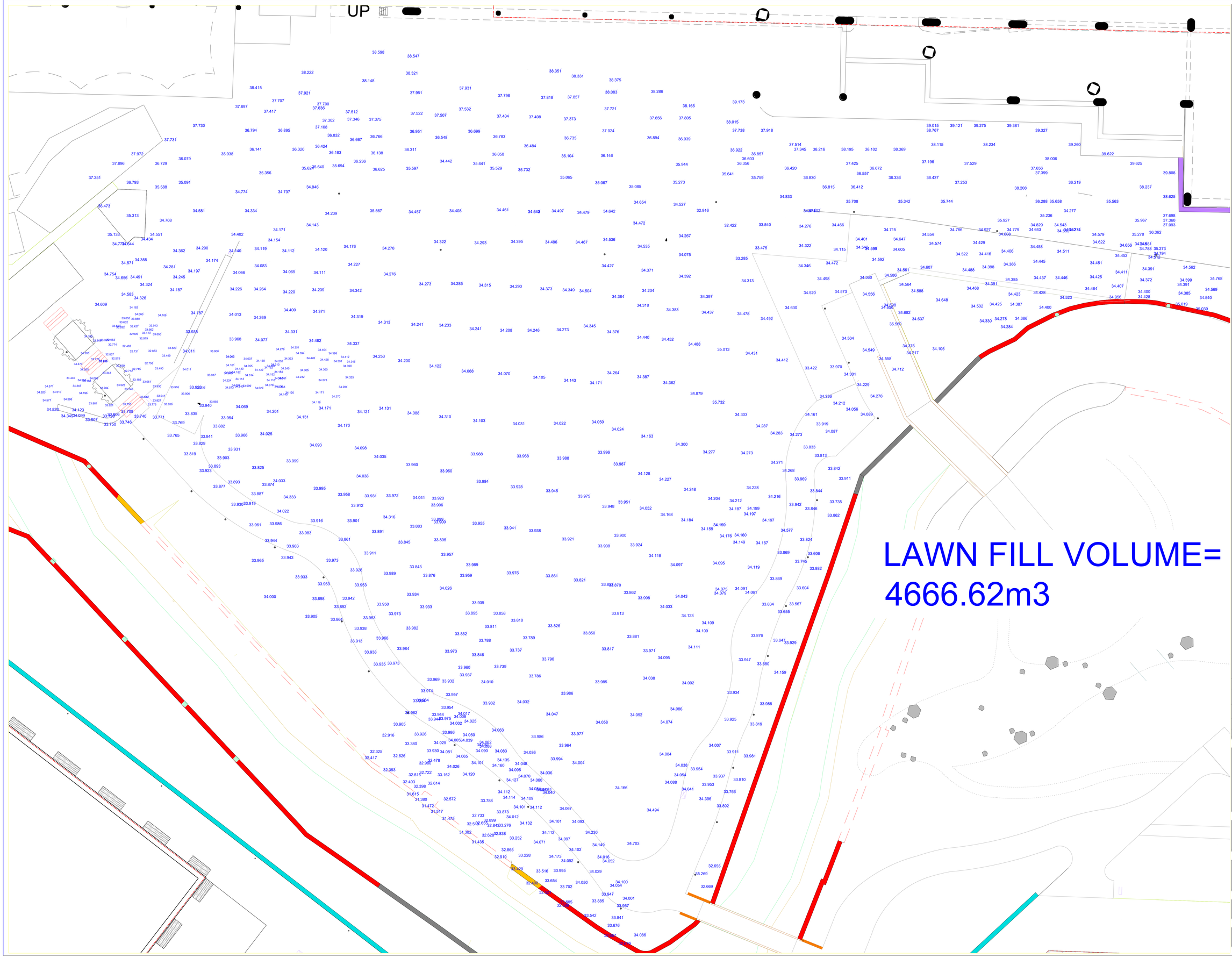
P. P. O'CONNOR
Committed To Excellence

PROJECT:
MAYFIELD_ENABLING_WORKS

TITLE:
LAWN_AREA_CUT_DIG_LEVELS

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY_2021

JOB No:	DRAWING No:	REVISION:
C0408	Lawnform001	0



NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

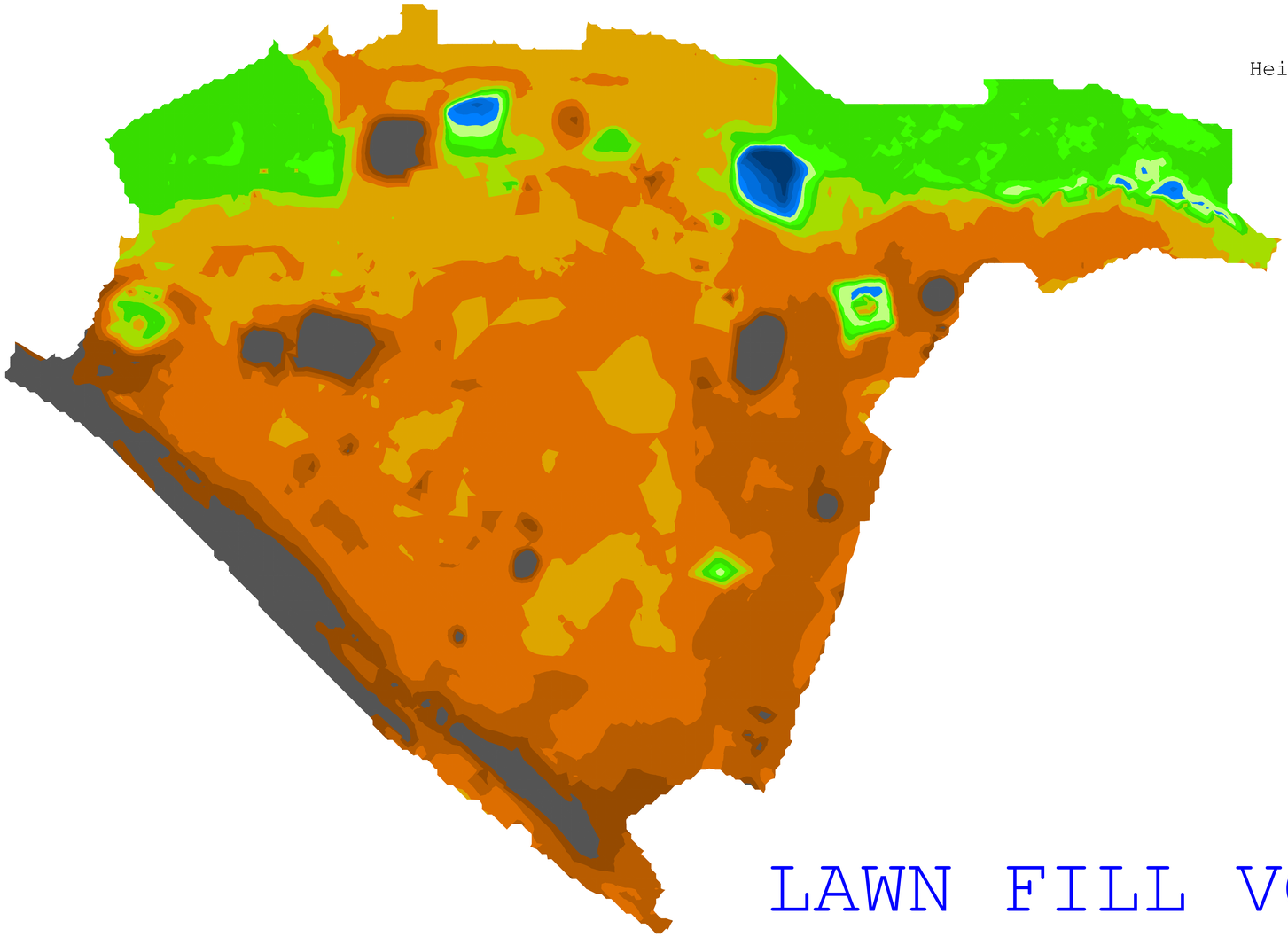
P. P. O'CONNOR
Committed To Excellence

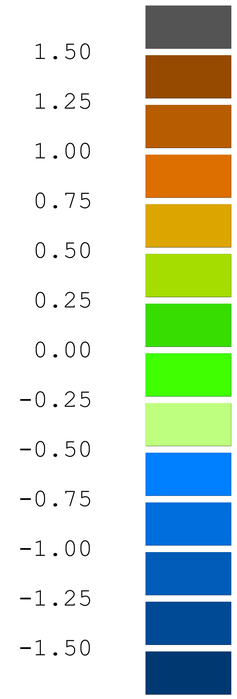
PROJECT:
MAYFIELD

TITLE:
X

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	28thJAN2020

JOB No:	DRAWING No:	REVISION:
C0408	0001	0





LAWN FILL VOLUME = 4666.62m3

NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR LTD
Committed To Excellence

PROJECT: MAYFIELD

TITLE: LAWN_AREA_FILL_DEPTHS

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY2021

JOB No:	DRAWING No:	REVISION:
C0408	LWFV001	0

Tree pit level 34.021m

Tree pit level 34.711m

Tree pit level 33.315m

Tree pit level 33.545m

Tree pit level 33.008m

Tree pit level 32.870m

Tree pit level 33.045m

Tree pit level 32.870m

Tree pit level 32.851m

Tree pit level 32.014m

CUT VOLUME FROM ORIGINAL TOPO = 4769m3

NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS
A	JULY2021	Additional levels added	JR
0	MAY2021	Original cut levels	JR

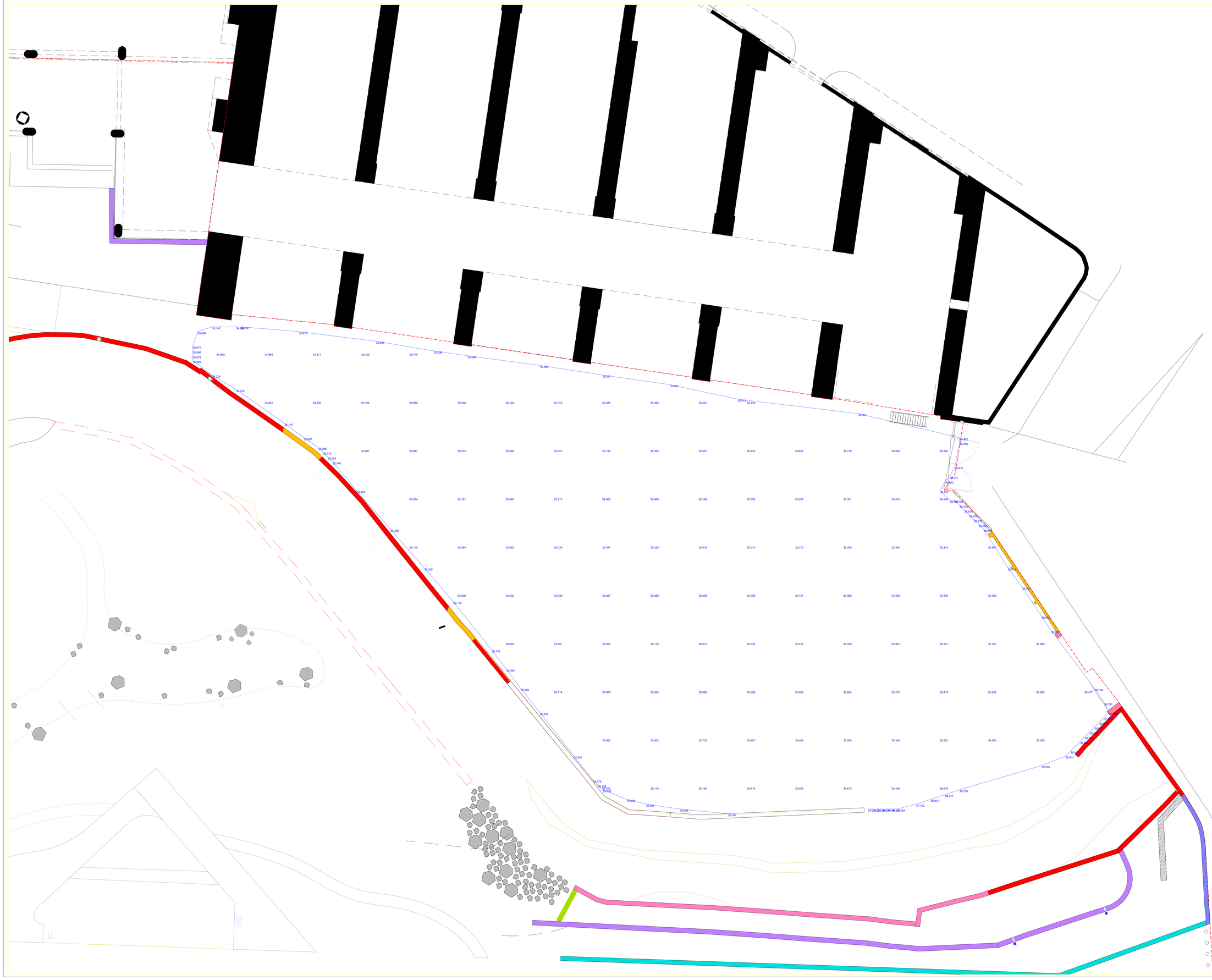
P. P. O'CONNOR
Committed To Excellence

PROJECT:
MAYFIELD_ENABLING_WORKS

TITLE:
PLAYGROUND_AREA_CUT_LEVELS

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY2021

JOB No:	DRAWING No:	REVISION:
C0408	PL001	A



NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR
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PROJECT:
MAYFIELD_ENABLING_WORKS

TITLE:
PLAYGROUND_FILL_LEVELS_JUNE2021

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JUNE2021

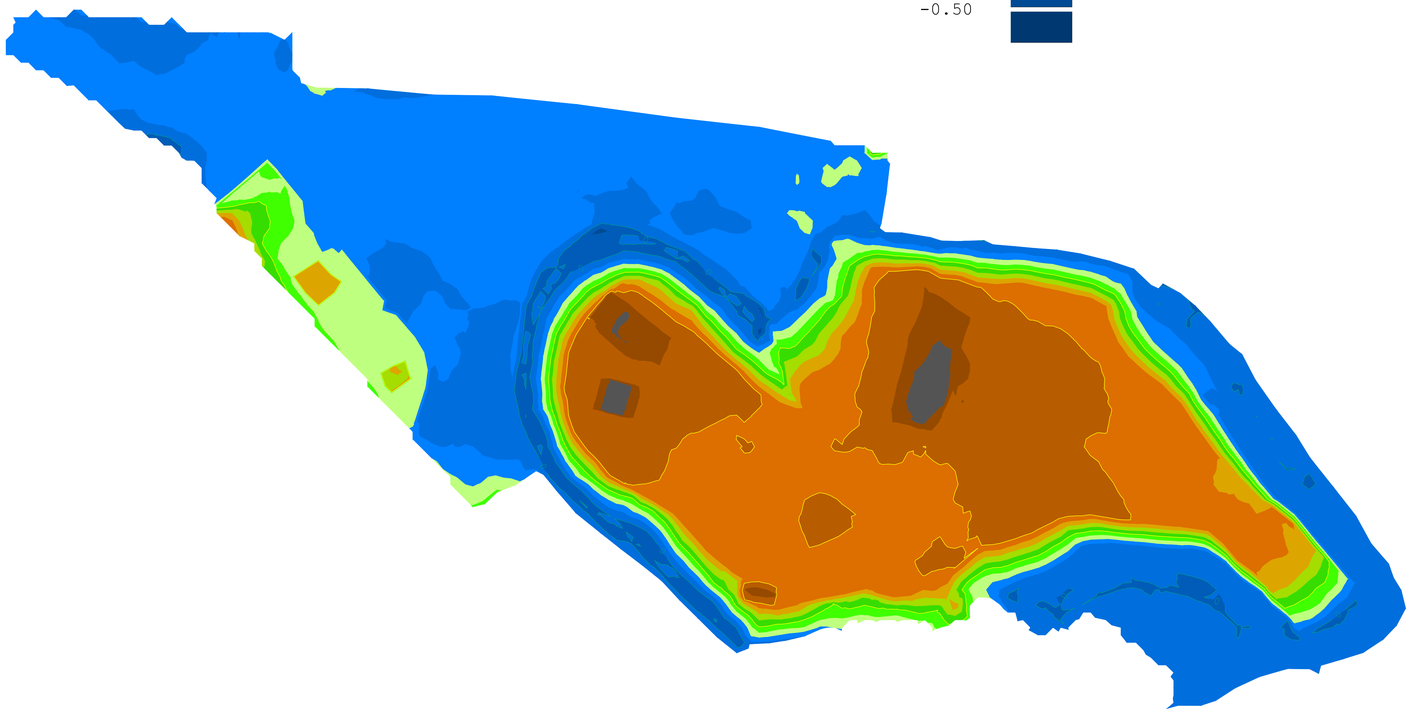
JOB No:	DRAWING No:	REVISION:
C0408	PL002	0

397650N
385150E

Play Area Fill volume = 2631m3

Height ranges

2.50
2.25
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
-0.25
-0.50



385150E
397550N

NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

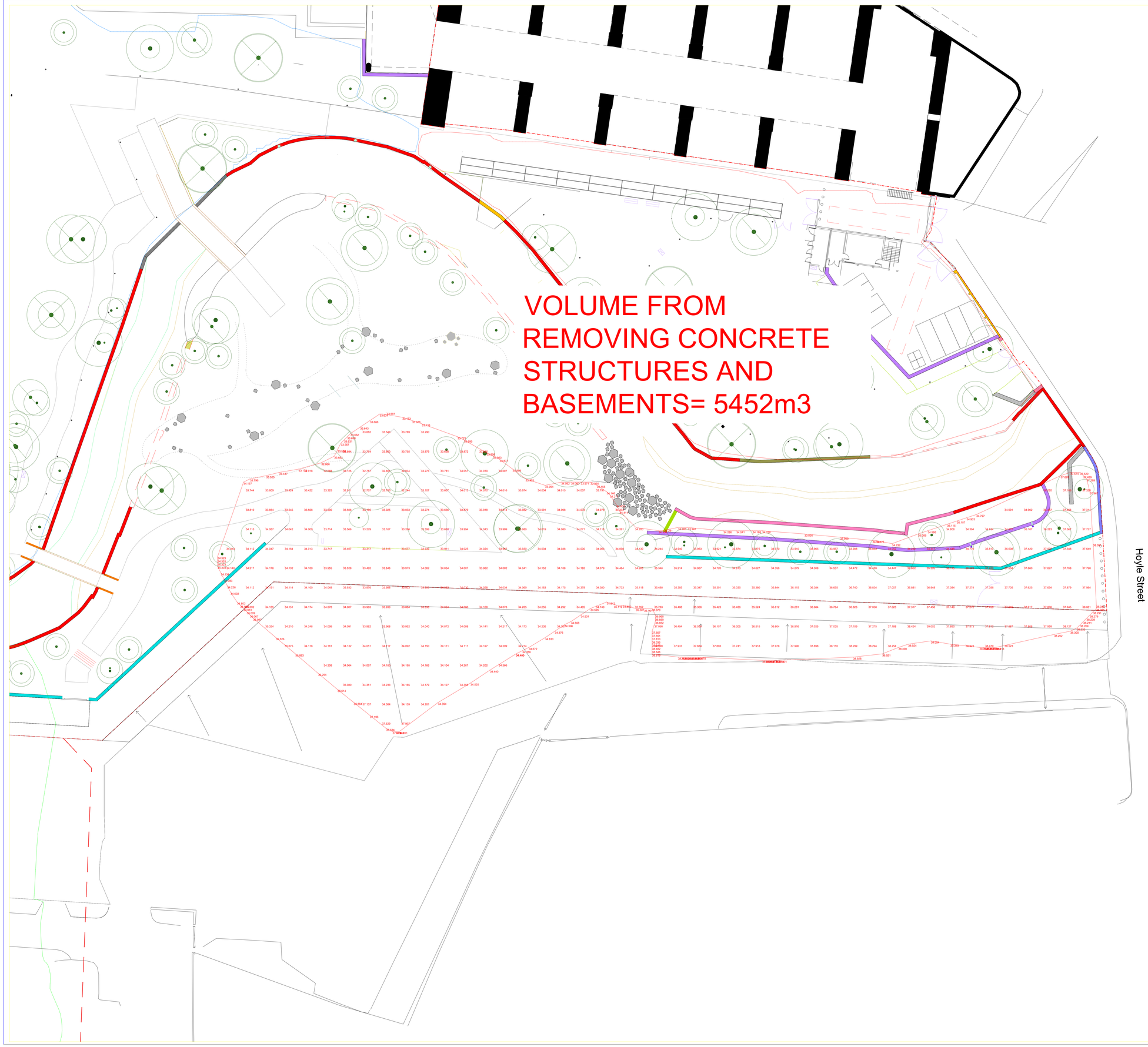
P. P. O'CONNOR LTD
Committed To Excellence

PROJECT:
MAYFIELD

TITLE:
PLAYGROUND_FILL_DEPTHS_SCHEMATIC

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY2021

JOB No:	DRAWING No:	REVISION:
C0408	PAFD001	0



NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR
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PROJECT:
MAYFIELD

TITLE:
WETLANDS_BASEMENT_AREA_LEVELS_PRIOR_TO_FILL

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	7thApril2021

JOB No:	DRAWING No:	REVISION:
C0408	WE002	0



NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

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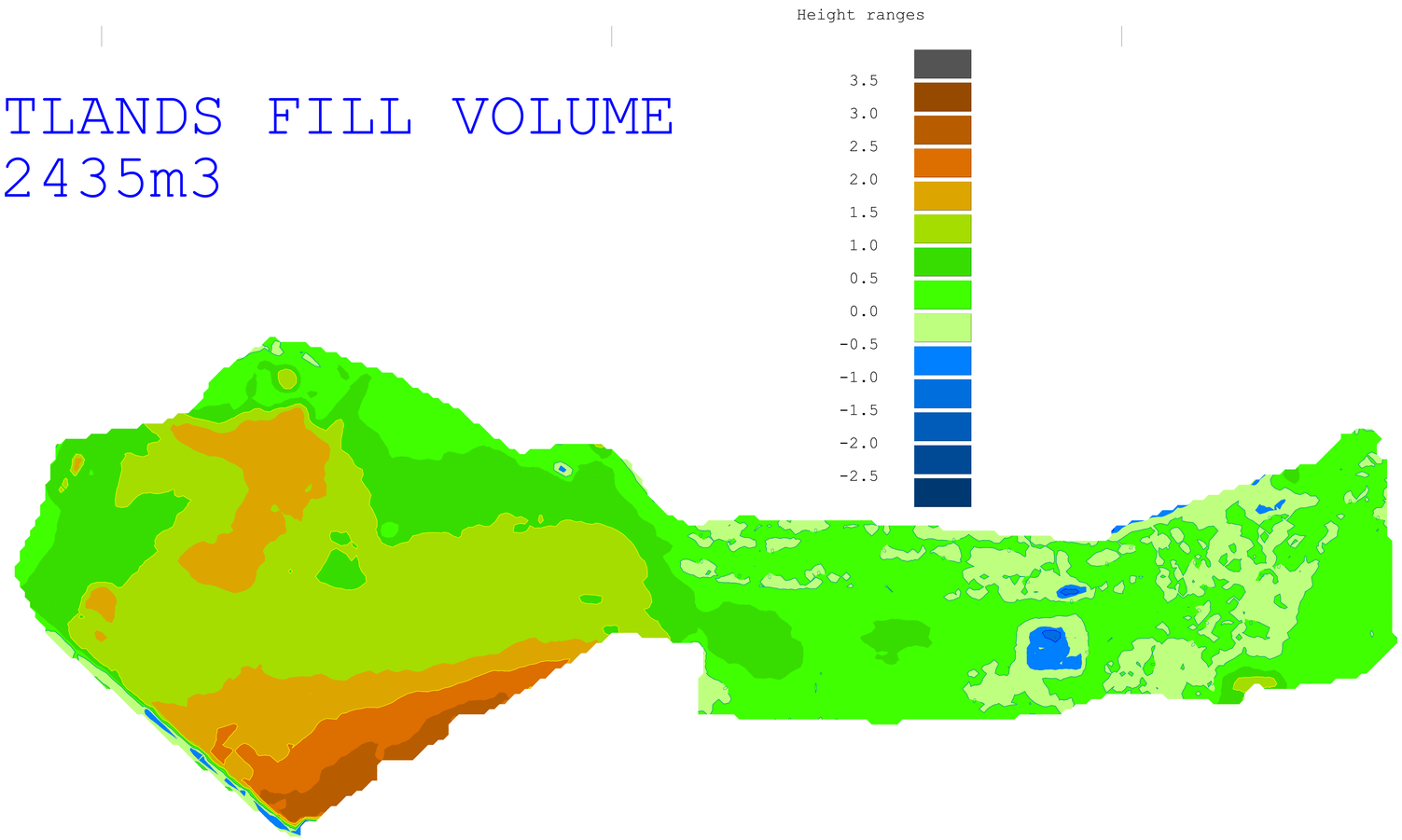
PROJECT:
MAYFIELD_ENABLING_WORKS

TITLE:
WETLANDS_IMPORTED_FILL_LEVELS

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JUNE2021

JOB No:	DRAWING No:	REVISION:
C0408	WE003	0

WETLANDS FILL VOLUME = 2435m3



NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR LTD
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PROJECT: MAYFIELD

TITLE: WETLANDS_FILL_DEPTHS-SCHEMATIC

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY2021

JOB No:	DRAWING No:	REVISION:
C0408	WEFD001	0

TOTAL CUT VOLUME FROM ORIGINAL TOPO = 23820m3

Baring Street

NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR
Committed To Excellence

PROJECT:
MAYFIELD_ENABLING_WORKS

TITLE:
PLOT_M,N,O_TOTAL_CUT_LEVELS

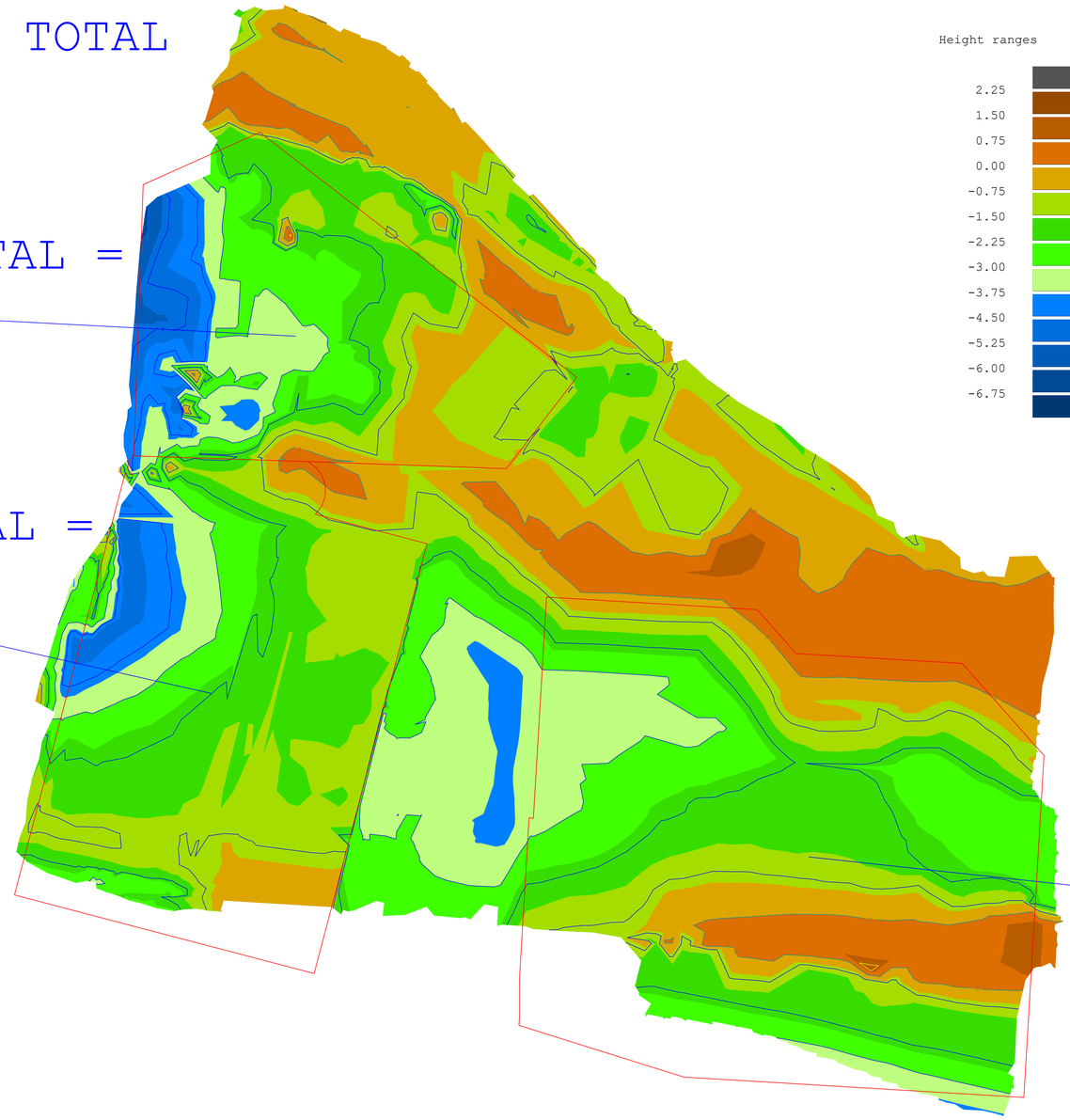
SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY2021

JOB No:	DRAWING No:	REVISION:
C0408	MNO001	0

PLOT M,N,O FILL TOTAL = 14739m3

PLOT O FILL TOTAL = 2954m3

PLOT N FILL TOTAL = 3421m3



PLOT M FILL TOTAL 3365m3

NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR LTD
Committed To Excellence

PROJECT: MAYFIELD

TITLE: PLOT_M,N,O_FILL_DEPTHS_SCHEMATIC

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	JULY2021

JOB No:	DRAWING No:	REVISION:
C0408	MNO001	0



NOTES

1. Do not scale from this drawing.

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR
Committed To Excellence

PROJECT:
MAYFIELD

TITLE:
PLOT_M,N,O_CBR_LOCATIONS

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	SEPT2021

JOB No:	DRAWING No:	REVISION:
C0417	CBR0001	0

NOTES

1. Do not scale from this drawing.

ARCHAEOLOGICAL
AREAS TO REMAIN
IN WETLANDS REGION

REV	DATE	REVISION DETAILS	INITIALS

P. P. O'CONNOR
Committed To Excellence

PROJECT:
MAYFIELD

TITLE:
ARCHAEOLOGICAL_REMAINING_STRUCTURES

SCALE @ A1:	DRAWN:	DATE:
NTS	JR	15thApril2021

JOB No:	DRAWING No:	REVISION:
C0408	WA001	0

APPENDIX V
CHEMICAL TESTING RESULTS

Nick Gregory
e3p
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Urmston
Manchester
M41 7JQ

e: ngregory@e3p.co.uk

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

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

Analytical Report Number : 21-57218

Project / Site name:	Mayfield Depot	**Samples received on:**	16/02/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	16/02/2021
Your order number:	14-575-NG-A	**Analysis completed by:**	19/02/2021
Report Issue Number:	1	**Report issued on:**	19/02/2021
Samples Analysed:	11 leachate samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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



Analytical Report Number: 21-57218
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-A

Lab Sample Number				1772528	1772529	1772530	1772531	1772532
Sample Reference				TP101	TP102	TP103	TP104	TP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.20	1.20	2.50	1.20	0.60
Date Sampled				15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	16	2.1	11	7.9	28
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.3	26	3.5	1.1	2.8
Lead (dissolved)	µg/l	1	ISO 17025	2.6	3.6	5.6	3.6	6.8

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.



Analytical Report Number: 21-57218
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-A

Lab Sample Number				1772533	1772534	1772535	1772536	1772537
Sample Reference				TP106	TP107	TP108	TP109	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.80	0.60	2.00	1.20
Date Sampled				15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	20	36	8.2	9.6	6.1
Chromium (dissolved)	µg/l	0.4	ISO 17025	19	2.7	8.2	2.3	0.7
Lead (dissolved)	µg/l	1	ISO 17025	14	1.6	16	23	11

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

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



Analytical Report Number: 21-57218
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-A

Lab Sample Number				1772538
Sample Reference				TP111
Sample Number				None Supplied
Depth (m)				1.35
Date Sampled				15/02/2021
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Speciated PAHs				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	2.7
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.2
Lead (dissolved)	µg/l	1	ISO 17025	6.2

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 21-57218
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Nick Gregory
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Taylor Road
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M41 7JQ

e: ngregory@e3p.co.uk

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Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

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

Analytical Report Number : 21-57444

Project / Site name:	Mayfield Depot	**Samples received on:**	17/02/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	17/02/2021
Your order number:	14 575 NG B	**Analysis completed by:**	22/02/2021
Report Issue Number:	1	**Report issued on:**	22/02/2021
Samples Analysed:	8 leachate samples and 2 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

Analytical Report Number: 21-57444
Project / Site name: Mayfield Depot
Your Order No: 14 575 NG B

Lab Sample Number				1773893	1773894
Sample Reference				Crush-101-NG-ES	Crush-102-NG-ES
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				16/02/2021	16/02/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.2	7.6
Total mass of sample received	kg	0.001	NONE	0.5	0.5
General Inorganics					
pH - Automated	pH Units	N/A	NONE	11.3	10.5
Total Cyanide	mg/kg	1	NONE	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	NONE	1400	1100
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	NONE	0.044	0.15
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	NONE	88	290
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	NONE	43.8	147
Sulphide	mg/kg	1	NONE	< 1.0	21
Total Sulphur	mg/kg	50	NONE	600	540
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	NONE	< 1.0	< 1.0
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	NONE	5.3	6.6
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	0.2	0.3
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	NONE	14	17
Copper (aqua regia extractable)	mg/kg	1	NONE	24	27
Lead (aqua regia extractable)	mg/kg	1	NONE	38	46
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	13	14
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	NONE	62	60

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

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



Analytical Report Number: 21-57444
Project / Site name: Mayfield Depot

Your Order No: 14 575 NG B

Lab Sample Number				1773885	1773886	1773887	1773888	1773889
Sample Reference				TP112	TP113	TP114	TP115	TP116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	1.30	0.90	0.30	0.25
Date Sampled				16/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	6.9	8	9.8	1.1	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.1	2	2.4	2.1	18
Lead (dissolved)	µg/l	1	ISO 17025	27	27	14	6.8	4.5

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

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



Analytical Report Number: 21-57444
Project / Site name: Mayfield Depot

Your Order No: 14 575 NG B

Lab Sample Number				1773890	1773891	1773892
Sample Reference				TP117	TP118	Stoskpile C
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.10	1.50	None Supplied
Date Sampled				16/02/2021	16/02/2021	16/02/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	21
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.1	0.7	8.6
Lead (dissolved)	µg/l	1	ISO 17025	2.1	4	6

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

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

Analytical Report Number : 21-57444
Project / Site name: Mayfield Depot

* 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 *
1773893	Crush-101-NG-ES	None Supplied	None Supplied	Brown sandy gravel with brick.**
1773894	Crush-102-NG-ES	None Supplied	None Supplied	Brown sandy gravel with brick.**

**Non MCERTS Matrix

Analytical Report Number : 21-57444
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	NONE
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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.	L038-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-63563

Project / Site name:	Mayfield Depot	**Samples received on:**	18/03/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	18/03/2021
Your order number:	14575-NG-L	**Analysis completed by:**	25/03/2021
Report Issue Number:	1	**Report issued on:**	25/03/2021
Samples Analysed:	3 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-63563
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-L

Lab Sample Number				1808464	1808465	1808466
Sample Reference				Playarea TP119	Playarea TP120	Playarea TP121
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.20	0.50
Date Sampled				17/03/2021	17/03/2021	17/03/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	16	13
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	7.9	8.5	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	11000	7000	3500
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	1.2	1.2	0.34
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	2400	2400	690
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	1220	1180	344
Sulphide	mg/kg	1	MCERTS	100	110	74
Total Sulphur	mg/kg	50	MCERTS	11000	6900	4700
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.0	0.61	0.37
Fluorene	mg/kg	0.05	MCERTS	1.5	1.8	0.49
Phenanthrene	mg/kg	0.05	MCERTS	5.1	5.2	4.4
Anthracene	mg/kg	0.05	MCERTS	1.0	1.4	1.4
Fluoranthene	mg/kg	0.05	MCERTS	4.2	3.3	6.7
Pyrene	mg/kg	0.05	MCERTS	4.2	5.1	7.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.4	1.7	4.5
Chrysene	mg/kg	0.05	MCERTS	1.9	2.6	4.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.4	2.1	5.0
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.99	1.3	2.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.6	1.4	3.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.80	0.89	2.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.37	0.71
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	1.2	2.7
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	28.2	28.9	46.0

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Analytical Report Number: 21-63563
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-L

Lab Sample Number				1808464	1808465	1808466
Sample Reference				Playarea TP119	Playarea TP120	Playarea TP121
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.20	0.50
Date Sampled				17/03/2021	17/03/2021	17/03/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26	24	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	1.4	0.6
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	51	40
Copper (aqua regia extractable)	mg/kg	1	MCERTS	830	480	94
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1100	1400	370
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	36	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	900	890	190
Petroleum Hydrocarbons						
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	39	24	4.3
TPH (C12 - C16)	mg/kg	4	MCERTS	210	490	160
TPH (C16 - C21)	mg/kg	1	MCERTS	350	1600	420
TPH (C21 - C35)	mg/kg	1	MCERTS	1100	2100	1600
TPH (C35 - C40)	mg/kg	10	MCERTS	160	190	250
TPH Total C5 - C40	mg/kg	10	MCERTS	1900	4400	2400

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

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

Analytical Report Number: 21-63563
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-L

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-PL 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
1808464	Playarea TP119	0.30	102	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
1808465	Playarea TP120	0.20	153	Loose Fibrous Debris	**Chrysotile**	< 0.001	**< 0.001**
1808466	Playarea TP121	0.50	139	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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

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Analytical Report Number : 21-63563
Project / Site name: Mayfield Depot

* 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 *
1808464	Playarea TP119	None Supplied	0.3	Brown sandy clay with oil / petroleum.
1808465	Playarea TP120	None Supplied	0.2	Brown loam and sand with gravel.
1808466	Playarea TP121	None Supplied	0.5	Brown loam and clay with gravel and brick.

Analytical Report Number : 21-63563
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 21-63563
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-58285

Replaces Analytical Report Number : 21-58285, issue no. 1

Client sampling date amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	22/02/2021
Your job number:	14-575	**Sample instructed/ Analysis started on:**	22/02/2021
Your order number:	14-575-DH-D	**Analysis completed by:**	25/02/2021
Report Issue Number:	2	**Report issued on:**	25/02/2021
Samples Analysed:	6 leachate samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)

For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-58285

Project / Site name: Mayfield Depot

Your Order No: 14-575-DH-D

Lab Sample Number				1778600	1778601	1778602	1778603	1778604
Sample Reference				MG001	MG002	MG003	MG004	MG005
Sample Number				Lawn Batter	Lawn Batter	Lawn Batter	Lawn Batter	Lawn Batter
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				21/02/2021	21/02/2021	21/02/2021	21/02/2021	21/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	4.4	2.9	6.6	11	16
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.7	3.2	9.0	2.6	4.4
Lead (dissolved)	µg/l	1	ISO 17025	8.1	42	3.4	17	30

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

Analytical Report Number: 21-58285

Project / Site name: Mayfield Depot

Your Order No: 14-575-DH-D

Lab Sample Number				1778605				
Sample Reference				MG006				
Sample Number				Lawn Batter				
Depth (m)				None Supplied				
Date Sampled				21/02/2021				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	13				
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.4				
Lead (dissolved)	µg/l	1	ISO 17025	13				

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

Analytical Report Number : 21-58285

Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-70179

Project / Site name:	Mayfield Depot	**Samples received on:**	21/04/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	21/04/2021
Your order number:	14575-NG-V	**Analysis completed by:**	28/04/2021
Report Issue Number:	1	**Report issued on:**	28/04/2021
Samples Analysed:	6 soil samples		

Izabela Wójcik

Signed:

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-70179
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-V

Lab Sample Number				1845179	1845180	1845181	1845182	1845183
Sample Reference				HC3 - Valid - N	HC3 - Valid - S	HC3 - Valid - E	HC3 - Valid - W	HC3 - Valid - B
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	3.00	3.00	3.00	3.00
Date Sampled				21/04/2021	21/04/2021	21/04/2021	21/04/2021	21/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	10	9.9	9.5	9.6
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50	0.50	0.50
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.6	0.33
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	3.0	0.24
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.2	0.29
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	7.71	0.86
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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

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

Analytical Report Number: 21-70179
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-V

Lab Sample Number				1845184
Sample Reference				HC3 - Valid - A
Sample Number				None Supplied
Depth (m)				1.00
Date Sampled				21/04/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.001	NONE	0.50
Speciated PAHs				
Naphthalene	mg/kg	0.05	MCERTS	0.62
Acenaphthylene	mg/kg	0.05	MCERTS	0.30
Acenaphthene	mg/kg	0.05	MCERTS	0.86
Fluorene	mg/kg	0.05	MCERTS	0.68
Phenanthrene	mg/kg	0.05	MCERTS	6.2
Anthracene	mg/kg	0.05	MCERTS	1.3
Fluoranthene	mg/kg	0.05	MCERTS	9.0
Pyrene	mg/kg	0.05	MCERTS	8.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.7
Chrysene	mg/kg	0.05	MCERTS	3.8
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	4.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.0
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.0
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.57
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.5
Total PAH				
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	51.3
Monoaromatics & Oxygenates				
Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	7.3
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	8.8
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	45
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	61
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	5.7
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	13
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	37
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	49
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	100

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

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Analytical Report Number : 21-70179
Project / Site name: Mayfield Depot

* 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 *
1845179	HC3 - Valid - N	None Supplied	3	Brown sand.
1845180	HC3 - Valid - S	None Supplied	3	Brown sand.
1845181	HC3 - Valid - E	None Supplied	3	Brown sand.
1845182	HC3 - Valid - W	None Supplied	3	Brown sand.
1845183	HC3 - Valid - B	None Supplied	3	Brown sand.
1845184	HC3 - Valid - A	None Supplied	1	Brown loam and sand with gravel.

Analytical Report Number : 21-70179
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-76648

Project / Site name:	Mayfield Depot	**Samples received on:**	21/05/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	21/05/2021
Your order number:	14-575-NG-AP	**Analysis completed by:**	26/05/2021
Report Issue Number:	1	**Report issued on:**	26/05/2021
Samples Analysed:	12 leachate samples - 12 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-76648
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AP

Lab Sample Number				1879912	1879913	1879914	1879915	1879916
Sample Reference				HC1 Base 101	HC1 Base 102	HC1 Base 103	HC1 Base 104	HC1 Base 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				20/05/2021	20/05/2021	20/05/2021	20/05/2021	20/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	18	7.8	23	16
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 21-76648
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AP

Lab Sample Number				1879917	1879918	1879919	1879920	1879921
Sample Reference				HC1 Base 106	HC1 Base 107	HC1 Base 108	HC1 Base 109	HC1 Base 110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				20/05/2021	20/05/2021	20/05/2021	20/05/2021	20/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	15	15	15	17
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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

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Analytical Report Number: 21-76648
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AP

Lab Sample Number				1879922	1879923
Sample Reference				HC1 Base 111	HC1 Base 112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				20/05/2021	20/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	14
Total mass of sample received	kg	0.001	NONE	1.0	1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80
Monoaromatics & Oxygenates					
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
Petroleum Hydrocarbons					
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10

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Analytical Report Number: 21-76648
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AP

Lab Sample Number				1879924	1879925	1879926	1879927	1879928
Sample Reference				HC1 Base 101	HC1 Base 102	HC1 Base 103	HC1 Base 104	HC1 Base 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				20/05/2021	20/05/2021	20/05/2021	20/05/2021	20/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	1.3	< 1.0	2.3	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.1	0.7	1.6	1.9	1.3
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-76648
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AP

Lab Sample Number				1879929	1879930	1879931	1879932	1879933
Sample Reference				HC1 Base 106	HC1 Base 107	HC1 Base 108	HC1 Base 109	HC1 Base 110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				20/05/2021	20/05/2021	20/05/2021	20/05/2021	20/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.4	0.6	1.1	1.3	0.8
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-76648
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AP

Lab Sample Number				1879934	1879935
Sample Reference				HC1 Base 111	HC1 Base 112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				20/05/2021	20/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Speciated PAHs					
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	1.3
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0

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Analytical Report Number : 21-76648
Project / Site name: Mayfield Depot

* 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 *
1879912	HC1 Base 101	None Supplied	None Supplied	Brown sandy clay with gravel.
1879913	HC1 Base 102	None Supplied	None Supplied	Brown loam and clay.
1879914	HC1 Base 103	None Supplied	None Supplied	Brown loam and clay.
1879915	HC1 Base 104	None Supplied	None Supplied	Brown loam and clay.
1879916	HC1 Base 105	None Supplied	None Supplied	Brown loam and clay.
1879917	HC1 Base 106	None Supplied	None Supplied	Brown loam and clay.
1879918	HC1 Base 107	None Supplied	None Supplied	Brown loam and clay.
1879919	HC1 Base 108	None Supplied	None Supplied	Brown loam and clay.
1879920	HC1 Base 109	None Supplied	None Supplied	Brown loam and clay.
1879921	HC1 Base 110	None Supplied	None Supplied	Brown loam and clay.
1879922	HC1 Base 111	None Supplied	None Supplied	Brown loam and clay.
1879923	HC1 Base 112	None Supplied	None Supplied	Brown loam and clay.

Analytical Report Number : 21-76648
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-78144

Project / Site name:	Mayfield Depot	**Samples received on:**	28/05/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	28/05/2021
Your order number:	14-575-NG-AT	**Analysis completed by:**	04/06/2021
Report Issue Number:	1	**Report issued on:**	04/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-78144
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AT

Lab Sample Number				1887913	1887914	1887915	1887916	1887917
Sample Reference				HC1 N 101	HC1 N 102	HC1 E 101	HC1 E 102	HC1 S 101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				27/05/2021	27/05/2021	27/05/2021	27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	4.6	4.3	4.1	5.0	4.3
Total mass of sample received	kg	0.001	NONE	1.1	1.2	1.0	1.1	1.1
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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

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

Analytical Report Number: 21-78144
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AT

Lab Sample Number				1887918	1887919	1887920
Sample Reference				HC1 S 102	HC1 W 101	HC1 W 102
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				27/05/2021	27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	4.7	7.4	4.7
Total mass of sample received	kg	0.001	NONE	1.2	1.0	1.2
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	0.50	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.47	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.37	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.7	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.62	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.8	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.81	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.77	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.79	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.25	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.70	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.28	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.25	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	12.1	< 0.80	< 0.80
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	1.6	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	9.5	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	27	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	92	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	130	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	11	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	19	< 10	< 10

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Analytical Report Number: 21-78144
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AT

Lab Sample Number				1887921	1887922	1887923	1887924	1887925	1887926
Sample Reference				HC1 N 101	HC1 N 102	HC1 E 101	HC1 E 102	HC1 S 101	HC1 S 102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				27/05/2021	27/05/2021	27/05/2021	27/05/2021	27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**						
Speciated PAHs									
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids									
Arsenic (dissolved)	µg/l	1	ISO 17025	31	31	< 1.0	1.8	32	32
Chromium (dissolved)	µg/l	0.4	ISO 17025	8.6	2.0	1.0	3.4	2.2	1.7
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	2.0	< 1.0	3.7	< 1.0	< 1.0

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Analytical Report Number: 21-78144
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AT

Lab Sample Number				1887927	1887928
Sample Reference				HC1 W 101	HC1 W 102
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Speciated PAHs					
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	1.6
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.5	3.0
Lead (dissolved)	µg/l	1	ISO 17025	2.3	1.6

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Analytical Report Number : 21-78144
Project / Site name: Mayfield Depot

* 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 *
1887913	HC1 N 101	None Supplied	None Supplied	Brown sand with gravel.
1887914	HC1 N 102	None Supplied	None Supplied	Brown sand with gravel.
1887915	HC1 E 101	None Supplied	None Supplied	Brown sand with gravel.
1887916	HC1 E 102	None Supplied	None Supplied	Brown sand with gravel.
1887917	HC1 S 101	None Supplied	None Supplied	Brown sand with gravel.
1887918	HC1 S 102	None Supplied	None Supplied	Brown sand with gravel.
1887919	HC1 W 101	None Supplied	None Supplied	Brown sand with gravel.
1887920	HC1 W 102	None Supplied	None Supplied	Brown sand with gravel.

Analytical Report Number : 21-78144
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-90820

Project / Site name:	Mayfield Depot	**Samples received on:**	03/08/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	03/08/2021
Your order number:	14-575-NG-AAH	**Analysis completed by:**	10/08/2021
Report Issue Number:	1	**Report issued on:**	10/08/2021
Samples Analysed:	6 leachate samples - 6 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-90820
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AAH

Lab Sample Number				1961495	1961496	1961497	1961498	1961499
Sample Reference				HC1 VAL 201	HC1 VAL 202	HC1 VAL 203	HC1 VAL 204 N	HC1 VAL 205 N
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				03/08/2021	03/08/2021	03/08/2021	03/08/2021	03/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.6	9.1	14	16	14
Total mass of sample received	kg	0.001	NONE	1.4	1.4	1.3	1.4	1.4
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	9.5	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	14	< 10	< 10	< 10	< 10

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Analytical Report Number: 21-90820
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-AAH

Lab Sample Number				1961500
Sample Reference				HC1 VAL 206 N
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				03/08/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.001	NONE	1.3
Speciated PAHs				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05
Total PAH				
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80
Monoaromatics & Oxygenates				
Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	13
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	22

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

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



Analytical Report Number: 21-90820
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AAH

Lab Sample Number				1961501	1961502	1961503	1961504	1961505
Sample Reference				HC1 VAL 201	HC1 VAL 202	HC1 VAL 203	HC1 VAL 204 N	HC1 VAL 205 N
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				03/08/2021	03/08/2021	03/08/2021	03/08/2021	03/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	1.1	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4	< 0.4	0.6	0.8
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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

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Analytical Report Number: 21-90820
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AAH

Lab Sample Number				1961506
Sample Reference				HC1 VAL 206 N
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				03/08/2021
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Speciated PAHs				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.3
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0

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

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Analytical Report Number : 21-90820
Project / Site name: Mayfield Depot

* 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 *
1961495	HC1 VAL 201	None Supplied	None Supplied	Brown sandy clay with gravel.
1961496	HC1 VAL 202	None Supplied	None Supplied	Brown sandy clay with gravel.
1961497	HC1 VAL 203	None Supplied	None Supplied	Brown sandy clay.
1961498	HC1 VAL 204 N	None Supplied	None Supplied	Brown sandy clay.
1961499	HC1 VAL 205 N	None Supplied	None Supplied	Brown sandy clay.
1961500	HC1 VAL 206 N	None Supplied	None Supplied	Brown sandy clay.

Analytical Report Number : 21-90820
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-78144

Replaces Analytical Report Number: 21-78144, issue no. 1
Client references/information amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	28/05/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	28/05/2021
Your order number:	14-575-NG-AT	**Analysis completed by:**	04/06/2021
Report Issue Number:	2	**Report issued on:**	04/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Zina Abdul Razzak
Senior Quality Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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Analytical Report Number : 21-74218

Replaces Analytical Report Number: 21-74218, issue no. 2
Client references/information amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	11/05/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	11/05/2021
Your order number:	14575-NG-AI	**Analysis completed by:**	27/05/2021
Report Issue Number:	3	**Report issued on:**	23/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

Analytical Report Number: 21-74218
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AI

Lab Sample Number				1867010	1867011	1867012	1867013	1867014
Sample Reference				BB10-Screen -01	BB10-Screen -02	BB10-Screen -03	BB10-Screen -04	BB10-Screen -05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.3	8.5	10	9.2	10
Total mass of sample received	kg	0.001	NONE	1.0	1.1	1.2	1.1	1.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.9	< 0.05	0.32
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.31	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.6	< 0.05	0.42
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.3	< 0.05	0.39
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.94	< 0.05	0.27
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.90	< 0.05	0.19
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.66	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.61	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.86	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.41	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.43	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	12.0	< 0.80	1.59
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	53	12	11	15	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	68	52	56	380	56
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.78	0.68	0.69	0.70	0.83
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.8	0.5	0.6	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40	39	40	45	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	83	120	1200	82
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	12	12	11	13	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	18	17	16	17	19
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	45	40	41	48	43
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-74218
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AI

Lab Sample Number				1867010	1867011	1867012	1867013	1867014
Sample Reference				BB10-Screen -01	BB10-Screen -02	BB10-Screen -03	BB10-Screen -04	BB10-Screen -05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	12	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	10	< 10	20	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	15	< 10	32	< 10	12

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

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Analytical Report Number: 21-74218
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AI

Lab Sample Number				1867015	1867016	1867017
Sample Reference				BB10-Screen -06	BB10-Screen -07	BB10-Screen -08
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.1	8.8	7.9
Total mass of sample received	kg	0.001	NONE	1.5	1.0	1.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.90	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.51	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.42	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	3.4	0.90
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.59	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	3.8	1.2
Pyrene	mg/kg	0.05	MCERTS	< 0.05	3.7	1.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.7	0.53
Chrysene	mg/kg	0.05	MCERTS	< 0.05	2.0	0.64
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.1	0.56
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.67	0.35
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.9	0.63
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.87	0.30
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.0	0.35
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	23.5	6.62
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	25	13	12
Barium (aqua regia extractable)	mg/kg	1	MCERTS	56	74	92
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66	0.46	0.53
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.5	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	36	28	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	96	160	300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	9.3	8.8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	12	11
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	81	60
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

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

Analytical Report Number: 21-74218
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AI

Lab Sample Number				1867015	1867016	1867017
Sample Reference				BB10-Screen -06	BB10-Screen -07	BB10-Screen -08
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	1.7	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	4.0	2.5
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	12	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	11	36	30
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	14	54	42

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

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Analytical Report Number: 21-74218
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AI

Lab Sample Number				1867018	1867019	1867020	1867021	1867022
Sample Reference				BB10-Screen -01	BB10-Screen -02	BB10-Screen -03	BB10-Screen -04	BB10-Screen -05
Sample Number				Leachate	Leachate	Leachate	Leachate	Leachate
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	9.1	4.1	< 1.0	6.3	2.7
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.2	1.3	2.0	1.9	1.2
Lead (dissolved)	µg/l	1	ISO 17025	3.2	1.9	5.5	3.8	1.5

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

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Analytical Report Number: 21-74218
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AI

Lab Sample Number				1867023	1867024	1867025
Sample Reference				BB10-Screen -06	BB10-Screen -07	BB10-Screen -08
Sample Number				Leachate	Leachate	Leachate
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	40	28	29
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.4	1.8	1.3
Lead (dissolved)	µg/l	1	ISO 17025	1.2	4.3	3.0

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

Analytical Report Number : 21-74218
Project / Site name: Mayfield Depot

* 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 *
1867010	BB10-Screen -01	None Supplied	None Supplied	Brown loam with gravel.
1867011	BB10-Screen -02	None Supplied	None Supplied	Brown loam with gravel.
1867012	BB10-Screen -03	None Supplied	None Supplied	Brown loam with gravel.
1867013	BB10-Screen -04	None Supplied	None Supplied	Brown loam with gravel and vegetation.
1867014	BB10-Screen -05	None Supplied	None Supplied	Brown loam and sand with gravel.
1867015	BB10-Screen -06	None Supplied	None Supplied	Brown loam and sand with gravel.
1867016	BB10-Screen -07	None Supplied	None Supplied	Brown loam and sand with gravel.
1867017	BB10-Screen -08	None Supplied	None Supplied	Brown loam and sand with gravel.

Analytical Report Number : 21-74218
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-76633

Project / Site name:	Mayfield Depot	**Samples received on:**	21/05/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	21/05/2021
Your order number:	14575-NG-AR	**Analysis completed by:**	28/05/2021
Report Issue Number:	1	**Report issued on:**	28/05/2021
Samples Analysed:	3 soil samples		

Signed:

Will Fardon
Technical Reviewer (CS Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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Analytical Report Number : 21-57444

Project / Site name:	Mayfield Depot	**Samples received on:**	17/02/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	17/02/2021
Your order number:	14 575 NG B	**Analysis completed by:**	22/02/2021
Report Issue Number:	1	**Report issued on:**	22/02/2021
Samples Analysed:	8 leachate samples and 2 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-57444
Project / Site name: Mayfield Depot
Your Order No: 14 575 NG B

Lab Sample Number				1773893	1773894
Sample Reference				Crush-101-NG-ES	Crush-102-NG-ES
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				16/02/2021	16/02/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.2	7.6
Total mass of sample received	kg	0.001	NONE	0.5	0.5
General Inorganics					
pH - Automated	pH Units	N/A	NONE	11.3	10.5
Total Cyanide	mg/kg	1	NONE	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	NONE	1400	1100
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	NONE	0.044	0.15
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	NONE	88	290
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	NONE	43.8	147
Sulphide	mg/kg	1	NONE	< 1.0	21
Total Sulphur	mg/kg	50	NONE	600	540
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	NONE	< 1.0	< 1.0
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	NONE	5.3	6.6
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	0.2	0.3
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	NONE	14	17
Copper (aqua regia extractable)	mg/kg	1	NONE	24	27
Lead (aqua regia extractable)	mg/kg	1	NONE	38	46
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	13	14
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	NONE	62	60

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

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Analytical Report Number: 21-57444
Project / Site name: Mayfield Depot

Your Order No: 14 575 NG B

Lab Sample Number				1773885	1773886	1773887	1773888	1773889
Sample Reference				TP112	TP113	TP114	TP115	TP116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	1.30	0.90	0.30	0.25
Date Sampled				16/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	6.9	8	9.8	1.1	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.1	2	2.4	2.1	18
Lead (dissolved)	µg/l	1	ISO 17025	27	27	14	6.8	4.5

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

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Analytical Report Number: 21-57444
Project / Site name: Mayfield Depot

Your Order No: 14 575 NG B

Lab Sample Number				1773890	1773891	1773892
Sample Reference				TP117	TP118	Stoskpile C
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.10	1.50	None Supplied
Date Sampled				16/02/2021	16/02/2021	16/02/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	21
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.1	0.7	8.6
Lead (dissolved)	µg/l	1	ISO 17025	2.1	4	6

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

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

Analytical Report Number : 21-57444
Project / Site name: Mayfield Depot

* 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 *
1773893	Crush-101-NG-ES	None Supplied	None Supplied	Brown sandy gravel with brick.**
1773894	Crush-102-NG-ES	None Supplied	None Supplied	Brown sandy gravel with brick.**

**Non MCERTS Matrix

Analytical Report Number : 21-57444
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	NONE
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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.	L038-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-59945

Project / Site name:	Mayfield Depot	**Samples received on:**	02/03/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	02/03/2021
Your order number:	14-575-NG-G	**Analysis completed by:**	08/03/2021
Report Issue Number:	1	**Report issued on:**	08/03/2021
Samples Analysed:	3 leachate samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 21-59945
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-G

Lab Sample Number				1788700	1788701	1788702
Sample Reference				MG-Screenlawn-001	MG-Screenlawn-002	MG-Screenlawn-003
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				02/03/2021	02/03/2021	02/03/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	10	13	16
Chromium (dissolved)	µg/l	0.4	ISO 17025	24	11	9.6
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

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

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Analytical Report Number : 21-59945
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-66288

Replaces Analytical Report Number: 21-66288, issue no. 1
Client references/information amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	31/03/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	31/03/2021
Your order number:	14575-NG-N	**Analysis completed by:**	09/04/2021
Report Issue Number:	2	**Report issued on:**	27/05/2021
Samples Analysed:	1 leachate samples - 3 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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Analytical Report Number: 21-66288
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-N

Lab Sample Number				1823570	1823571	1823572
Sample Reference				Screen Process 101	Screen Process 102	Screen Process 103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	15	15
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50
Speciated PAHs						
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	9.7	6.8	7.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	9.4	6.4	7.8
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	29	38	37
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	30	40
Lead (aqua regia extractable)	mg/kg	1	MCERTS	650	630	640

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Analytical Report Number: 21-66288
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-N

Lab Sample Number				1823573	1825116
Sample Reference				MG-Screenlawn-004	MG-Screenlawn-004
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Speciated PAHs					
Benzo(a)anthracene	µg/l	0.01	ISO 17025	-	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	-	< 0.01
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	-	6.2
Chromium (dissolved)	µg/l	0.4	ISO 17025	-	6.3
Lead (dissolved)	µg/l	1	ISO 17025	-	10

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Analytical Report Number : 21-66288
Project / Site name: Mayfield Depot

* 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 *
1823570	creen Process 1(	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1823571	creen Process 1(	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1823572	creen Process 1(	None Supplied	None Supplied	Brown loam and clay with gravel.
1823573	G-Screenlawn-0(	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 21-66288
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	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.	L019-UK/PL	D	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 21-70768-3A

Replaces Analytical Report Number: 21-70768, issue no. 2
Client references/information amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	22/04/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	23/04/2021
Your order number:	14-575-NG-N	**Analysis completed by:**	28/04/2021
Report Issue Number:	3A	**Report issued on:**	27/05/2021
Samples Analysed:	12 leachate samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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Analytical Report Number: 21-70768
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-N

Lab Sample Number				1848370	1848371	1848372	1848375	1848378
Sample Reference				MG-Screenlawn-005	MG-Screenlawn-006	MG-Screenlawn-007	MG-Screenlawn-08	WC-Screen - 001
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/04/2021	23/04/2021	23/04/2021	23/04/2021	23/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	23	22	29	28	25
Chromium (dissolved)	µg/l	0.4	ISO 17025	6.5	6.3	7.1	8.1	6.6
Lead (dissolved)	µg/l	1	ISO 17025	9.9	6.2	5.4	4.8	3.3

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Analytical Report Number: 21-70768
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-N

Lab Sample Number				1848379	1848381	1848382	1848383	1848385
Sample Reference				WC-Screen - 002	BB4- Screen 004	BB4- Screen 005	BB4- Screen 006	BB4- Screen 008
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/04/2021	23/04/2021	23/04/2021	23/04/2021	23/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	27	26	26	24	27
Chromium (dissolved)	µg/l	0.4	ISO 17025	6.5	8.4	7.8	8.0	9.0
Lead (dissolved)	µg/l	1	ISO 17025	2.3	< 1.0	1.7	1.9	5.3

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Analytical Report Number: 21-70768
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-N

Lab Sample Number				1848386	1848387
Sample Reference				BB4- Screen 009	BB4- Screen 010
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/04/2021	23/04/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Speciated PAHs					
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	24	29
Chromium (dissolved)	µg/l	0.4	ISO 17025	8.1	7.2
Lead (dissolved)	µg/l	1	ISO 17025	6.7	5.2

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Analytical Report Number : 21-70768
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 21-72176

Replaces Analytical Report Number: 21-72176, issue no. 1
Client references/information amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	29/04/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	30/04/2021
Your order number:	14-575-NG-AB	**Analysis completed by:**	06/05/2021
Report Issue Number:	2	**Report issued on:**	27/05/2021
Samples Analysed:	3 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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Analytical Report Number: 21-72176
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AB

Lab Sample Number				1855988	1855989	1855990
Sample Reference				WC-Screen - 003	WC-Screen - 004	WC-Screen - 005
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				29/04/2021	29/04/2021	29/04/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	25	12	17
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.9	3.1	3.6
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	8.3	6.4

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Analytical Report Number : 21-72176
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

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Analytical Report Number : 21-79097

Project / Site name:	Mayfield Depot	**Samples received on:**	03/06/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	03/06/2021
Your order number:	14575-NG-AU	**Analysis completed by:**	08/06/2021
Report Issue Number:	1	**Report issued on:**	08/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AU

Lab Sample Number				1892398	1892399	1892400	1892401	1892402
Sample Reference				Plot N - 101	Plot N - 102	Plot N - 103	Plot N - 104	Plot N - 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2021	01/06/2021	01/06/2021	01/06/2021	01/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	13	16	16	10
Total mass of sample received	kg	0.001	NONE	0.60	0.60	0.50	0.40	0.40
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	-	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	-	0.001
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	1.1	1.1	< 1.0	< 1.0	1.4
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	11	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	3.0	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.85	0.79	2.7	0.69	0.69
Fluorene	mg/kg	0.05	MCERTS	0.53	0.68	4.2	0.55	0.49
Phenanthrene	mg/kg	0.05	MCERTS	4.4	4.5	31	4.1	3.8
Anthracene	mg/kg	0.05	MCERTS	1.1	1.2	6.6	0.97	0.88
Fluoranthene	mg/kg	0.05	MCERTS	6.5	5.7	31	6.0	5.4
Pyrene	mg/kg	0.05	MCERTS	6.2	5.3	28	5.7	5.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.8	2.5	11	2.7	2.5
Chrysene	mg/kg	0.05	MCERTS	2.7	2.4	10	2.6	2.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.4	3.1	13	3.7	2.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.1	0.76	3.2	1.1	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.7	2.5	10	3.1	2.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4	1.1	4.6	1.4	1.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.44	0.38	1.3	0.42	0.40
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.8	1.3	5.5	1.8	1.5
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	35.8	32.3	176	34.7	31.0
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	58	80	71	54	79
Barium (aqua regia extractable)	mg/kg	1	MCERTS	180	190	180	140	200
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1.1	1.2	0.92	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	1.4	1.2	1.6	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	90	110	110	100	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	270	300	280	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	0.8	< 0.3	0.6	1.1
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	19	20	17	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	28	25	22	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160	160	150	140	170

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Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AU

Lab Sample Number				1892398	1892399	1892400	1892401	1892402
Sample Reference				Plot N - 101	Plot N - 102	Plot N - 103	Plot N - 104	Plot N - 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2021	01/06/2021	01/06/2021	01/06/2021	01/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.4	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	7.6	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	8.9	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	27	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	45	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	2.3	1.9	20	1.1	1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	9.2	6.9	33	4.2	4.1
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	24	20	97	16	17
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	48	43	110	50	40
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	83	71	260	71	62

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

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Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AU

Lab Sample Number				1892403	1892404	1892405
Sample Reference				Plot N - 106	Plot N - 107	Plot N - 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2021	01/06/2021	01/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	14	14
Total mass of sample received	kg	0.001	NONE	0.40	0.40	0.40
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	< 0.001
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	2.4	1.5
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.31	0.39	0.43
Fluorene	mg/kg	0.05	MCERTS	0.26	0.29	0.26
Phenanthrene	mg/kg	0.05	MCERTS	1.8	2.5	2.3
Anthracene	mg/kg	0.05	MCERTS	0.49	0.63	0.64
Fluoranthene	mg/kg	0.05	MCERTS	3.0	3.6	3.6
Pyrene	mg/kg	0.05	MCERTS	3.0	3.5	3.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	1.8	1.5
Chrysene	mg/kg	0.05	MCERTS	1.3	1.7	1.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.0	2.1	1.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.50	0.89	0.64
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	1.9	1.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.75	0.88	0.81
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.25	0.28	0.25
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.95	1.2	0.93
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	17.7	21.7	19.5
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	69	80	37
Barium (aqua regia extractable)	mg/kg	1	MCERTS	200	190	150
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1.3	1.0
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	1.4	1.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	120	81
Lead (aqua regia extractable)	mg/kg	1	MCERTS	290	310	200
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.4	< 0.3	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	23	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	27	24
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160	200	140

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Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AU

Lab Sample Number				1892403	1892404	1892405
Sample Reference				Plot N - 106	Plot N - 107	Plot N - 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2021	01/06/2021	01/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	11
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.7	3.1	10
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	10	15	20
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	45	53	65
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	61	71	110

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	4.4
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	5.5	3.0	7.5
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	13	12	15
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	32	32	36
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	50	47	63

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

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

Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AU

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-PL 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
1892398	Plot N - 101		176	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1892399	Plot N - 102		156	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1892400	Plot N - 103		157	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1892402	Plot N - 105		159	Loose Fibres	**Chrysotile**	0.001	**0.001**
1892404	Plot N - 107		169	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1892405	Plot N - 108		184	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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

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



Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AU

Lab Sample Number				1892406	1892407	1892408	1892409	1892410
Sample Reference				Plot N - 101	Plot N - 102	Plot N - 103	Plot N - 104	Plot N - 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2021	01/06/2021	01/06/2021	01/06/2021	01/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	22	6.6	26	14	36
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.8	2.6	2.7	2.2	2.4
Lead (dissolved)	µg/l	1	ISO 17025	5.1	6.9	10	6.8	1.1

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

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Analytical Report Number: 21-79097
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AU

Lab Sample Number				1892411	1892412	1892413
Sample Reference				Plot N - 106	Plot N - 107	Plot N - 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2021	01/06/2021	01/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	18	38	35
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.4	3.3	3.3
Lead (dissolved)	µg/l	1	ISO 17025	5.9	8.5	5.8

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Analytical Report Number : 21-79097
Project / Site name: Mayfield Depot

* 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 *
1892398	Plot N - 101	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation.
1892399	Plot N - 102	None Supplied	None Supplied	Brown clay and loam with gravel and brick.
1892400	Plot N - 103	None Supplied	None Supplied	Brown clay and loam with gravel and brick.
1892401	Plot N - 104	None Supplied	None Supplied	Brown clay and loam with gravel.
1892402	Plot N - 105	None Supplied	None Supplied	Brown clay and loam with gravel.
1892403	Plot N - 106	None Supplied	None Supplied	Brown clay and loam with gravel and brick.
1892404	Plot N - 107	None Supplied	None Supplied	Brown clay and loam with gravel.
1892405	Plot N - 108	None Supplied	None Supplied	Brown clay and loam with gravel.

Analytical Report Number : 21-79097
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 21-79097
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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

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

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Analytical Report Number : 21-79947

Project / Site name:	Mayfield Depot	**Samples received on:**	08/06/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	09/06/2021
Your order number:	14575 NG AV	**Analysis completed by:**	15/06/2021
Report Issue Number:	1	**Report issued on:**	15/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897012	1897013	1897014	1897015	1897016
Sample Reference				Plots 1A 101	Plots 1A 102	Plots 1A 103	Plots 1A 104	Plots 1A 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	12	11	13	14
Total mass of sample received	kg	0.001	NONE	1.1	1.0	1.1	1.1	1.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.020	0.002	0.001	< 0.001	0.002
Asbestos Quantification Total	%	0.001	ISO 17025	0.020	0.002	0.001	< 0.001	0.002
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	7.3	6.5	3.0	3.1	3.0
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.36	0.43	0.53	0.39
Acenaphthene	mg/kg	0.05	MCERTS	3.0	3.5	2.7	2.6	2.7
Fluorene	mg/kg	0.05	MCERTS	1.9	3.4	2.4	2.5	2.4
Phenanthrene	mg/kg	0.05	MCERTS	12	17	15	17	14
Anthracene	mg/kg	0.05	MCERTS	3.3	3.5	3.3	3.9	2.6
Fluoranthene	mg/kg	0.05	MCERTS	16	19	17	19	18
Pyrene	mg/kg	0.05	MCERTS	17	18	16	18	17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.3	9.3	7.4	10	9.6
Chrysene	mg/kg	0.05	MCERTS	8.0	8.6	6.4	8.3	7.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	6.3	8.3	7.0	9.7	9.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.0	5.0	3.5	4.2	6.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	6.3	9.6	7.2	9.2	9.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.8	5.9	4.6	6.0	5.8
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.1	1.9	1.3	1.9	2.0
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.2	7.8	5.8	7.7	7.7
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	99.1	127	102	124	117
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	51	78	65	64	75
Barium (aqua regia extractable)	mg/kg	1	MCERTS	340	460	250	280	550
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	0.94	0.96	0.94	1.0
Boron (water soluble)	mg/kg	0.2	MCERTS	3.2	3.0	2.8	3.0	3.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	73	110	86	100	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	300	280	210	320
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.0	2.1	< 0.3	< 0.3	2.0
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	19	21	18	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	27	28	31	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	260	240	210	300

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897012	1897013	1897014	1897015	1897016
Sample Reference				Plots 1A 101	Plots 1A 102	Plots 1A 103	Plots 1A 104	Plots 1A 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.8	< 2.0	6.3	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	20	18	13	11	31
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	91	77	67	61	130
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	120	95	86	72	160
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	16	10	6.3	6.7	6.8
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	44	26	19	21	23
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	170	100	81	78	120
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	210	180	120	130	180
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	440	310	220	230	340

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

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897017	1897018	1897019
Sample Reference				Plots 1A 106	Plots 1A 107	Plots 1A 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	12	13
Total mass of sample received	kg	0.001	NONE	1.1	1.1	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.001	< 0.001	0.006
Asbestos Quantification Total	%	0.001	ISO 17025	0.001	< 0.001	0.006
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	2.8	3.4	8.7
Acenaphthylene	mg/kg	0.05	MCERTS	0.39	0.33	0.46
Acenaphthene	mg/kg	0.05	MCERTS	2.3	2.6	5.8
Fluorene	mg/kg	0.05	MCERTS	2.3	2.4	4.7
Phenanthrene	mg/kg	0.05	MCERTS	12	3.2	24
Anthracene	mg/kg	0.05	MCERTS	2.4	3.3	4.6
Fluoranthene	mg/kg	0.05	MCERTS	16	14	27
Pyrene	mg/kg	0.05	MCERTS	15	15	26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	7.8	8.3	13
Chrysene	mg/kg	0.05	MCERTS	5.9	6.7	11
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	8.2	8.2	13
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.7	3.3	5.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.3	8.1	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	5.0	5.2	7.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.5	1.9	2.6
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.6	6.7	10
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	98.5	93.0	175
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	70	59	43
Barium (aqua regia extractable)	mg/kg	1	MCERTS	480	280	370
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.99	0.84	0.95
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	2.8	3.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	86	81
Lead (aqua regia extractable)	mg/kg	1	MCERTS	300	300	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.2	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	18	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	25	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290	210	230

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897017	1897018	1897019
Sample Reference				Plots 1A 106	Plots 1A 107	Plots 1A 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	9.5	< 2.0	2.9
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	39	10	23
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	160	43	120
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	210	53	150

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	6.4	6.7	12
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	27	22	45
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	130	91	170
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	220	140	280
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	380	260	510

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

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-PL 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
1897012	Plots 1A 101		129	Loose Fibrous Debris	**Chrysotile**	0.020	**0.020**
1897013	Plots 1A 102		132	Loose Fibrous Debris & Loose Fibres	**Chrysotile**	0.002	**0.002**
1897014	Plots 1A 103		131	Loose Fibrous Debris	**Chrysotile**	0.001	**0.001**
1897015	Plots 1A 104		143	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897016	Plots 1A 105		127	Loose Fibrous Debris	**Chrysotile**	0.002	**0.002**
1897017	Plots 1A 106		147	Loose Fibres	**Chrysotile**	0.001	**0.001**
1897018	Plots 1A 107		140	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897019	Plots 1A 108		139	Loose Fibrous Debris	**Chrysotile**	0.006	**0.006**

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



Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AV

Lab Sample Number				1897020	1897021	1897022	1897023	1897024
Sample Reference				Plots 1A 101	Plots 1A 102	Plots 1A 103	Plots 1A 104	Plots 1A 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	56	73	83	52	62
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.0	3.4	3.2	2.0	3.1
Lead (dissolved)	µg/l	1	ISO 17025	4.9	5.6	4.9	5.3	4.1

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AV

Lab Sample Number				1897025	1897099	1897100
Sample Reference				Plots 1A 106	Plots 1A 107	Plots 1A 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	170	78	28
Chromium (dissolved)	µg/l	0.4	ISO 17025	8.6	4.9	2.2
Lead (dissolved)	µg/l	1	ISO 17025	3.3	3.2	4.5

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1897012	Plots 1A 101	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897013	Plots 1A 102	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897014	Plots 1A 103	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897015	Plots 1A 104	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897016	Plots 1A 105	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897017	Plots 1A 106	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897018	Plots 1A 107	None Supplied	None Supplied	Brown clay and sand with rubble and brick.
1897019	Plots 1A 108	None Supplied	None Supplied	Brown clay and sand with brick and gravel

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Analytical Report Number : 21-79947
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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

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Analytical Report Number : 21-79953

Project / Site name:	Mayfield Depot	**Samples received on:**	08/06/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	08/06/2021
Your order number:	14575-NG-AW	**Analysis completed by:**	11/06/2021
Report Issue Number:	1	**Report issued on:**	11/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897048	1897049	1897050	1897051	1897052
Sample Reference				Plots 1B-101	Plots 1B-102	Plots 1B-103	Plots 1B-104	Plots 1B-105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	11	11	12	13
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	Chrysotile & Amosite	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	1.3	1.5	1.5	2.2	1.4
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.38	< 0.05	0.37	0.37	0.46
Fluorene	mg/kg	0.05	MCERTS	0.24	< 0.05	0.30	0.25	0.30
Phenanthrene	mg/kg	0.05	MCERTS	1.8	1.3	2.4	2.3	2.5
Anthracene	mg/kg	0.05	MCERTS	0.43	0.35	0.58	0.61	0.67
Fluoranthene	mg/kg	0.05	MCERTS	3.0	2.6	3.3	4.1	3.8
Pyrene	mg/kg	0.05	MCERTS	2.8	2.6	3.0	3.8	3.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	1.5	1.7	2.2	2.2
Chrysene	mg/kg	0.05	MCERTS	1.3	1.3	1.3	1.9	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.7	1.6	1.6	2.7	2.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.64	0.69	0.67	0.76	0.87
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.5	1.5	1.5	2.1	2.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	1.2	1.0	1.7	1.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.37	0.38	0.42	0.54	0.48
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.4	1.4	1.4	2.1	1.8
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	18.1	16.5	19.5	25.2	24.1
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	81	83	130	96	120
Barium (aqua regia extractable)	mg/kg	1	MCERTS	330	290	230	260	260
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.5	1.1	1.3	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.4	1.2	1.7	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	110	100	100	98
Lead (aqua regia extractable)	mg/kg	1	MCERTS	300	240	270	250	230
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	3.0	2.7	2.0	2.7	2.2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	24	21	25	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	29	26	26	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	340	250	210	230	250

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Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897048	1897049	1897050	1897051	1897052
Sample Reference				Plots 1B-101	Plots 1B-102	Plots 1B-103	Plots 1B-104	Plots 1B-105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	6.7	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	3.8	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	0.11	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	13	18	< 8.0	9.7	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	66	79	50	63	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	79	98	58	73	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	0.025	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	2.8	< 2.0	2.7	3.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	19	17	16	20	14
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	59	55	40	61	22
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	81	74	59	84	36

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

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Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897053	1897054	1897055
Sample Reference				Plots 1B-106	Plots 1B-107	Plots 1B-108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	8.7	10
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Amosite & Crocidolite	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.23	< 0.05	0.45
Fluorene	mg/kg	0.05	MCERTS	0.20	< 0.05	0.33
Phenanthrene	mg/kg	0.05	MCERTS	1.5	0.83	2.9
Anthracene	mg/kg	0.05	MCERTS	0.40	0.22	0.65
Fluoranthene	mg/kg	0.05	MCERTS	2.5	1.6	4.1
Pyrene	mg/kg	0.05	MCERTS	2.4	1.6	3.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	0.95	2.4
Chrysene	mg/kg	0.05	MCERTS	1.1	0.86	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.3	0.95	2.5
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.78	0.50	0.72
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	0.93	2.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	0.81	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.38	< 0.05	0.48
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	0.95	2.0
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	15.8	10.2	25.6
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	81	110	88
Barium (aqua regia extractable)	mg/kg	1	MCERTS	250	310	280
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.5	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.8	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	180	120	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	280	300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.9	2.7	2.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	23	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	28	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290	300	310

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Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897053	1897054	1897055
Sample Reference				Plots 1B-106	Plots 1B-107	Plots 1B-108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	8.5	15
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	44	100
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	53	120
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	3.0	2.6
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	15	24
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	12	51	140
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	19	69	170

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

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

Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

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-PL 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
1897048	Plots 1B-101		166	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897049	Plots 1B-102		129	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897050	Plots 1B-103		142	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897051	Plots 1B-104		141	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
1897052	Plots 1B-105		137	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897053	Plots 1B-106		154	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897054	Plots 1B-107		148	Loose Fibres	**Amosite & Crocidolite**	< 0.001	**< 0.001**
1897055	Plots 1B-108		153	Loose Fibrous Debris	**Amosite**	0.001	**0.001**

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

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



Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AW

Lab Sample Number				1897056	1897057	1897058	1897059	1897060
Sample Reference				Plots 1B-101	Plots 1B-102	Plots 1B-103	Plots 1B-104	Plots 1B-105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	82	66	90	77	180
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.2	1.2	1.9	1.7	1.1
Lead (dissolved)	µg/l	1	ISO 17025	5.7	4.1	4.1	6.1	5.1

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

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



Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AW

Lab Sample Number				1897061	1897062	1897063
Sample Reference				Plots 1B-106	Plots 1B-107	Plots 1B-108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	67	46	91
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.4	1.7	1.0
Lead (dissolved)	µg/l	1	ISO 17025	5.4	5.6	3.4

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

Analytical Report Number : 21-79953
Project / Site name: Mayfield Depot

* 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 *
1897048	Plots 1B-101	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1897049	Plots 1B-102	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation.
1897050	Plots 1B-103	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1897051	Plots 1B-104	None Supplied	None Supplied	Brown sandy clay with gravel.
1897052	Plots 1B-105	None Supplied	None Supplied	Brown sandy clay with gravel.
1897053	Plots 1B-106	None Supplied	None Supplied	Brown clay and loam with gravel.
1897054	Plots 1B-107	None Supplied	None Supplied	Brown clay and loam with gravel.
1897055	Plots 1B-108	None Supplied	None Supplied	Brown clay and loam with gravel and brick.

Analytical Report Number : 21-79953
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 21-79953
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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

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

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Analytical Report Number : 21-82445

Project / Site name:	Mayfield Depot	**Samples received on:**	21/06/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	21/06/2021
Your order number:	14575 NG AZ	**Analysis completed by:**	24/06/2021
Report Issue Number:	1	**Report issued on:**	24/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-82445
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AZ

Lab Sample Number				1912056	1912057	1912058	1912059	1912060
Sample Reference				Plots 1B - 201	Plots 1B - 202	Plots 1B - 203	Plots 1B - 204	Plots 1B - 205
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	12	12	12	10
Total mass of sample received	kg	0.001	NONE	1.1	1.1	1.1	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile & Anthophyllite	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.001	0.001	0.007	0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	0.001	0.001	0.007	0.001	< 0.001
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	< 1.0	5.4	5.8	< 1.0	1.1
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.53	0.56	1.0	1.5	0.96
Fluorene	mg/kg	0.05	MCERTS	0.39	0.53	0.52	0.74	0.42
Phenanthrene	mg/kg	0.05	MCERTS	4.2	5.7	5.3	8.5	5.5
Anthracene	mg/kg	0.05	MCERTS	1.2	0.94	1.1	1.6	0.84
Fluoranthene	mg/kg	0.05	MCERTS	6.0	7.2	7.1	12	5.5
Pyrene	mg/kg	0.05	MCERTS	7.5	7.9	6.9	11	5.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.9	3.5	3.9	5.1	2.9
Chrysene	mg/kg	0.05	MCERTS	3.4	2.6	2.7	4.8	2.3
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.7	4.2	3.5	6.3	2.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.5	0.89	1.5	1.2	0.81
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.6	3.6	3.1	4.7	2.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.8	1.7	1.6	2.5	1.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.59	0.46	0.48	0.69	0.36
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.1	2.3	2.1	3.3	1.6
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	40.3	42.0	40.9	64.0	34.0
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	38	27	22	30	21
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	150	130	130	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	0.90	0.95	0.91	0.84
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7	1.4	1.5	0.5	1.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	89	57	59	110	52
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240	240	160	210	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.3	3.6	1.2	1.5	1.1
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	17	16	17	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	23	23	24	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	180	160	270	150

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

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Analytical Report Number: 21-82445
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AZ

Lab Sample Number				1912061	1912062	1912063
Sample Reference				Plots 1B - 206	Plots 1B - 207	Plots 1B - 208
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				18/06/2021	18/06/2021	18/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	11	12
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.024	0.018	0.014
Asbestos Quantification Total	%	0.001	ISO 17025	0.024	0.018	0.014
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	1.3
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.74
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.45	0.42	2.3
Fluorene	mg/kg	0.05	MCERTS	0.31	0.22	1.0
Phenanthrene	mg/kg	0.05	MCERTS	2.8	2.2	10
Anthracene	mg/kg	0.05	MCERTS	0.62	0.51	1.6
Fluoranthene	mg/kg	0.05	MCERTS	3.6	3.4	9.6
Pyrene	mg/kg	0.05	MCERTS	3.7	3.3	9.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.0	1.8	4.3
Chrysene	mg/kg	0.05	MCERTS	1.4	1.7	3.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.8	2.1	5.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.30	0.34	0.96
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.1	1.9	4.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.80	0.91	2.0
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.58
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	1.1	2.5
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	20.0	19.8	58.3
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	27	24
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	130	210
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.96	0.89	0.84
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.4	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	71	55	56
Lead (aqua regia extractable)	mg/kg	1	MCERTS	220	160	190
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.2	1.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	16	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	25	24	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	160	170

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Analytical Report Number: 21-82445
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AZ

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-PL 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
1912056	Plots 1B - 201		156	Loose Fibrous Debris	**Chrysotile**	0.001	**0.001**
1912057	Plots 1B - 202		137	Loose Fibrous Debris & Loose Fibres	**Chrysotile & Anthophyllite**	0.001	**0.001**
1912058	Plots 1B - 203		147	Loose Fibrous Debris	**Chrysotile**	0.007	**0.007**
1912059	Plots 1B - 204		160	Loose Fibrous Debris	**Chrysotile**	0.001	**0.001**
1912060	Plots 1B - 205		162	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1912061	Plots 1B - 206		158	Loose Fibrous Debris	**Chrysotile**	0.024	**0.024**
1912062	Plots 1B - 207		137	Loose Fibrous Debris	**Chrysotile**	0.018	**0.018**
1912063	Plots 1B - 208		141	Loose Fibrous Debris	**Chrysotile**	0.014	**0.014**

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

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

Analytical Report Number: 21-82445
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AZ

Lab Sample Number				1912064	1912065	1912066	1912067	1912068
Sample Reference				Plots 1B - 201	Plots 1B - 202	Plots 1B - 203	Plots 1B - 204	Plots 1B - 205
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	3.9	9.1	3.2	2.2	3.7
Chromium (dissolved)	µg/l	0.4	ISO 17025	20	6.9	11	13	20
Lead (dissolved)	µg/l	1	ISO 17025	1.1	< 1.0	3.4	< 1.0	< 1.0

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

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Analytical Report Number: 21-82445
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AZ

Lab Sample Number				1912069	1912070	1912071
Sample Reference				Plots 1B - 206	Plots 1B - 207	Plots 1B - 208
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				18/06/2021	18/06/2021	18/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	5.8	4.9	1.5
Chromium (dissolved)	µg/l	0.4	ISO 17025	14	18	18
Lead (dissolved)	µg/l	1	ISO 17025	1.4	< 1.0	< 1.0

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Analytical Report Number : 21-82445
Project / Site name: Mayfield Depot

* 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 *
1912056	Plots 1B - 201	None Supplied	None Supplied	Brown clay and sand with gravel.
1912057	Plots 1B - 202	None Supplied	None Supplied	Brown clay and sand with gravel.
1912058	Plots 1B - 203	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
1912059	Plots 1B - 204	None Supplied	None Supplied	Brown clay and sand with gravel.
1912060	Plots 1B - 205	None Supplied	None Supplied	Brown clay and sand with gravel and brick.
1912061	Plots 1B - 206	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
1912062	Plots 1B - 207	None Supplied	None Supplied	Brown clay and sand with gravel and brick.
1912063	Plots 1B - 208	None Supplied	None Supplied	Brown clay and sand with gravel.

Analytical Report Number : 21-82445
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-82784

Project / Site name:	Mayfield Depot	**Samples received on:**	22/06/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	22/06/2021
Your order number:	14575 NG AAA	**Analysis completed by:**	25/06/2021
Report Issue Number:	1	**Report issued on:**	25/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Preliminary reports provided at the request of the client should be considered as incomplete and have not been through the complete quality control procedure.
Results contained in preliminary reports may be subject to change and therefore should not be used as a basis for decision making, except at the risk of the client.
Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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



Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAA

Lab Sample Number				1913706	1913708	1913710	1913712	1913714
Sample Reference				Plots 1A - 201	Plots 1A - 202	Plots 1A - 203	Plots 1A - 204	Plots 1A - 205
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				21/06/2021	21/06/2021	21/06/2021	21/06/2021	21/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	2.0	0.96	2.0	0.91	1.6
Total mass of sample received	kg	0.001	NONE	1.0	0.60	1.0	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite	Amosite	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	< 0.001	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	< 0.001	< 0.001	-
General Inorganics								
Total Cyanide	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.21	< 0.05	0.27
Fluorene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.40	0.97	1.1	1.1	1.6
Anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.28	0.22	0.25
Fluoranthene	mg/kg	0.05	NONE	0.42	1.0	1.8	1.1	1.7
Pyrene	mg/kg	0.05	NONE	0.37	1.0	1.7	1.1	1.6
Benzo(a)anthracene	mg/kg	0.05	NONE	< 0.05	0.50	0.95	0.53	0.91
Chrysene	mg/kg	0.05	NONE	< 0.05	0.52	0.90	0.52	0.76
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.53	1.1	0.50	0.80
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.23	0.43	0.22	0.46
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05	0.44	0.92	0.44	0.74
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.38	< 0.05	0.32
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.50	< 0.05	0.39
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	1.19	5.20	10.3	5.65	9.80
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	NONE	8.5	11	12	13	10
Barium (aqua regia extractable)	mg/kg	1	NONE	99	84	110	130	87
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	0.61	0.45	0.78	0.65	0.49
Boron (water soluble)	mg/kg	0.2	NONE	1.4	1.4	2.4	1.8	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	NONE	14	15	23	20	13
Lead (aqua regia extractable)	mg/kg	1	NONE	24	31	53	39	34
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	11	13	16	14	10
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	NONE	22	21	29	26	18
Zinc (aqua regia extractable)	mg/kg	1	NONE	41	58	56	67	47

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Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAA

Lab Sample Number				1913706	1913708	1913710	1913712	1913714
Sample Reference				Plots 1A - 201	Plots 1A - 202	Plots 1A - 203	Plots 1A - 204	Plots 1A - 205
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				21/06/2021	21/06/2021	21/06/2021	21/06/2021	21/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	7.6	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	41	9.3	18	33	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	640	71	130	98	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	NONE	690	80	150	130	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	5.6	< 1.0	< 1.0	3.3
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	4.6	9.1	4.4	< 2.0	5.2
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	30	15	30	23	23
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	200	44	100	50	36
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	NONE	230	74	140	74	67

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

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Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAA

Lab Sample Number				1913716	1913718	1913720
Sample Reference				Plots 1A - 206	Plots 1A - 207	Plots 1A - 208
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				21/06/2021	21/06/2021	21/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	1.9	2.2	1.2
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	< 0.001
General Inorganics						
Total Cyanide	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	NONE	0.68	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.85	0.37	< 0.05
Fluorene	mg/kg	0.05	NONE	0.55	0.31	< 0.05
Phenanthrene	mg/kg	0.05	NONE	3.8	2.9	0.72
Anthracene	mg/kg	0.05	NONE	0.79	0.98	< 0.05
Fluoranthene	mg/kg	0.05	NONE	4.4	4.5	0.78
Pyrene	mg/kg	0.05	NONE	4.2	4.0	0.72
Benzo(a)anthracene	mg/kg	0.05	NONE	2.2	2.0	0.45
Chrysene	mg/kg	0.05	NONE	2.1	2.0	0.42
Benzo(b)fluoranthene	mg/kg	0.05	NONE	2.3	1.7	0.32
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.96	1.0	0.29
Benzo(a)pyrene	mg/kg	0.05	NONE	2.1	1.8	0.38
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.87	0.72	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.23	0.27	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	1.0	0.86	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	27.1	23.5	4.08
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	NONE	12	16	42
Barium (aqua regia extractable)	mg/kg	1	NONE	120	110	120
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	0.63	0.58	0.71
Boron (water soluble)	mg/kg	0.2	NONE	1.5	1.1	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	NONE	25	21	22
Lead (aqua regia extractable)	mg/kg	1	NONE	72	61	48
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	13	15	12
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	NONE	21	27	21
Zinc (aqua regia extractable)	mg/kg	1	NONE	85	59	110

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Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAA

Lab Sample Number				1913716	1913718	1913720
Sample Reference				Plots 1A - 206	Plots 1A - 207	Plots 1A - 208
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				21/06/2021	21/06/2021	21/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	6.3	< 2.0	3.7
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	34	15	120
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	190	140	280
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	NONE	230	160	400

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	4.1	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	15	7.8	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	55	31	46
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	160	130	220
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	NONE	230	170	260

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

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Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAA

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-PL 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
1913708	Plots 1A - 202		149	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
1913710	Plots 1A - 203		169	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
1913712	Plots 1A - 204		219	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1913718	Plots 1A - 207		187	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
1913720	Plots 1A - 208		165	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

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

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Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AAA

Lab Sample Number				1913707	1913709	1913711	1913713	1913715
Sample Reference				Plots 1A - 201	Plots 1A - 202	Plots 1A - 203	Plots 1A - 204	Plots 1A - 205
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				21/06/2021	21/06/2021	21/06/2021	21/06/2021	21/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	19	13	57	4.1	13
Chromium (dissolved)	µg/l	0.4	ISO 17025	13	29	5.0	8.0	6.9
Lead (dissolved)	µg/l	1	ISO 17025	1.9	1.8	< 1.0	1.6	3.4

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

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Analytical Report Number: 21-82784
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AAA

Lab Sample Number				1913717	1913719	1913721
Sample Reference				Plots 1A - 206	Plots 1A - 207	Plots 1A - 208
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				21/06/2021	21/06/2021	21/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	16	15	11
Chromium (dissolved)	µg/l	0.4	ISO 17025	7.5	3.5	5.1
Lead (dissolved)	µg/l	1	ISO 17025	3.8	1.5	1.5

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

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



Analytical Report Number : 21-82784
Project / Site name: Mayfield Depot

* 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 *
1913706	Plots 1A - 201	None Supplied	None Supplied	Brown rubble with brick.**
1913708	Plots 1A - 202	None Supplied	None Supplied	Brown rubble with rubble and brick.**
1913710	Plots 1A - 203	None Supplied	None Supplied	Brown rubble with rubble and brick.**
1913712	Plots 1A - 204	None Supplied	None Supplied	Brown rubble with brick.**
1913714	Plots 1A - 205	None Supplied	None Supplied	Brown rubble with brick.**
1913716	Plots 1A - 206	None Supplied	None Supplied	Brown rubble with brick.**
1913718	Plots 1A - 207	None Supplied	None Supplied	Brown rubble with brick.**
1913720	Plots 1A - 208	None Supplied	None Supplied	Brown rubble with brick.**

** Non MCERTS Matrix

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



Analytical Report Number : 21-82784
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Sample Deviation Report

Analytical Report Number : 21-82784
Project / Site name: Mayfield Depot

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
Plots 1A - 202	None Supplied	S	1913708	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
Plots 1A - 202	None Supplied	S	1913708	b	Speciated EPA-16 PAHs in soil	L064-PL	b
Plots 1A - 202	None Supplied	S	1913708	b	TPHCWG (Soil)	L088/76-PL	b

Key: **a** - No sampling date **b** - Incorrect container
c - Holding time **d** - Headspace **e** - Temperature

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Analytical Report Number : 21-84334

Project / Site name:	Mayfield Depot	**Samples received on:**	30/06/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	30/06/2021
Your order number:	14575 NG AAC	**Analysis completed by:**	05/07/2021
Report Issue Number:	1	**Report issued on:**	05/07/2021
Samples Analysed:	4 leachate samples - 4 soil samples		

Signed:

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-84334
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAC

Lab Sample Number				1922914	1922915	1922916	1922917
Sample Reference				Plots 1A - 301	Plots 1A - 302	Plots 1A - 303	Plots 1A - 304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/06/2021	29/06/2021	29/06/2021	29/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	2.3	3.6	3.3	2.1
Total mass of sample received	kg	0.001	NONE	1.1	1.1	1.1	1.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics							
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.44	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.37	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	1.08	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.0	7.4	8.5	5.0
Barium (aqua regia extractable)	mg/kg	1	MCERTS	42	42	31	26
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.48	0.49	0.66	0.32
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.5	0.6	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	13	13	10
Lead (aqua regia extractable)	mg/kg	1	MCERTS	10	16	13	10
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	8.9	13	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24	15	23	14
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	29	41	37	30
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-84334
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAC

Lab Sample Number				1922914	1922915	1922916	1922917
Sample Reference				Plots 1A - 301	Plots 1A - 302	Plots 1A - 303	Plots 1A - 304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/06/2021	29/06/2021	29/06/2021	29/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	37	42	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	37	47	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10

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

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Analytical Report Number: 21-84334
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AAC

Lab Sample Number				1922918	1922919	1922920	1922921
Sample Reference				Plots 1A - 301	Plots 1A - 302	Plots 1A - 303	Plots 1A - 304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/06/2021	29/06/2021	29/06/2021	29/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Speciated PAHs							
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	14	8.3	4.9	8.5
Chromium (dissolved)	µg/l	0.4	ISO 17025	4.0	2.5	0.7	2.5
Lead (dissolved)	µg/l	1	ISO 17025	2.5	4.6	3.4	4.1

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

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

Analytical Report Number : 21-84334
Project / Site name: Mayfield Depot

* 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 *
1922914	Plots 1A - 301	None Supplied	None Supplied	Brown sandy loam with rubble.
1922915	Plots 1A - 302	None Supplied	None Supplied	Brown sandy loam with gravel and brick.
1922916	Plots 1A - 303	None Supplied	None Supplied	Brown sandy loam with gravel and brick.
1922917	Plots 1A - 304	None Supplied	None Supplied	Brown sand with gravel and brick.

Analytical Report Number : 21-84334
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-84339

Project / Site name:	Mayfield Depot	**Samples received on:**	30/06/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	30/06/2021
Your order number:	14575 NG AAB	**Analysis completed by:**	05/07/2021
Report Issue Number:	1	**Report issued on:**	05/07/2021
Samples Analysed:	4 leachate samples - 4 soil samples		

Signed:

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-84339
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAB

Lab Sample Number				1922933	1922934	1922935	1922936
Sample Reference				Plots 18 - 301	Plots 18 - 302	Plots 18 - 303	Plots 18 - 304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/06/2021	29/06/2021	29/06/2021	29/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	4.9	5.9	6.4	4.1
Total mass of sample received	kg	0.001	NONE	1.1	1.1	1.2	1.1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics							
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.3	4.3	3.1	5.0
Barium (aqua regia extractable)	mg/kg	1	MCERTS	35	15	16	16
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.48	0.44	0.33	0.37
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.4	0.2	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	9.6	8.9	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	31	6.7	5.3	9.8
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	7.1	6.6	8.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	11	9.0	11
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	26	24	30
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-84339
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AAB

Lab Sample Number				1922933	1922934	1922935	1922936
Sample Reference				Plots 18 - 301	Plots 18 - 302	Plots 18 - 303	Plots 18 - 304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/06/2021	29/06/2021	29/06/2021	29/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	56	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	56	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	18	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	18	< 10	< 10	< 10

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

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Analytical Report Number: 21-84339
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AAB

Lab Sample Number				1922937	1922938	1922939	1922940
Sample Reference				Plots 18 - 301	Plots 18 - 302	Plots 18 - 303	Plots 18 - 304
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/06/2021	29/06/2021	29/06/2021	29/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Speciated PAHs							
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	4.1	3.5	4.3	2.5
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	0.5	0.5	< 0.4
Lead (dissolved)	µg/l	1	ISO 17025	2.7	3.0	3.0	2.8

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Analytical Report Number : 21-84339
Project / Site name: Mayfield Depot

* 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 *
1922933	Plots 18 - 301	None Supplied	None Supplied	Brown sand with gravel and brick.
1922934	Plots 18 - 302	None Supplied	None Supplied	Brown sand with gravel and brick.
1922935	Plots 18 - 303	None Supplied	None Supplied	Brown sand with gravel and brick.
1922936	Plots 18 - 304	None Supplied	None Supplied	Brown sand with gravel.

Analytical Report Number : 21-84339
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-72177

Replaces Analytical Report Number: 21-72177, issue no. 1
Client references/information amended.

Project / Site name:	Mayfield Depot	**Samples received on:**	29/04/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	30/04/2021
Your order number:	14-575-NG-AA	**Analysis completed by:**	06/05/2021
Report Issue Number:	2	**Report issued on:**	27/05/2021
Samples Analysed:	3 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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



Analytical Report Number: 21-72177
Project / Site name: Mayfield Depot

Your Order No: 14-575-NG-AA

Lab Sample Number				1855991	1855992	1855993
Sample Reference				BB1 -Screen -003	BB1 -Screen -004	BB1 -Screen -005
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				29/04/2021	29/04/2021	29/04/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	590	630	490
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.6	2.7	3.3
Lead (dissolved)	µg/l	1	ISO 17025	3.7	3.1	4.1

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

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Analytical Report Number : 21-72177
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-73140

Replaces Analytical Report Number: 21-73140, issue no. 1
Client references/information amended.

Project / Site name:	Mayfied Depot	**Samples received on:**	05/05/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	05/05/2021
Your order number:	14-575-NG-AD	**Analysis completed by:**	10/05/2021
Report Issue Number:	2	**Report issued on:**	27/05/2021
Samples Analysed:	8 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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



Analytical Report Number: 21-73140
Project / Site name: Mayfied Depot

Your Order No: 14-575-NG-AD

Lab Sample Number				1861112	1861113	1861114	1861115	1861116
Sample Reference				BB4 - Screen - 013	BB1 - Screen - 001	BB1 - Screen - 002	BB1 - Screen - 003	BB1 - Screen - 004
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				04/05/2021	04/05/2021	04/05/2021	04/05/2021	04/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	47	530	470	340	150
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.0	4.8	2.6	3.8	3.5
Lead (dissolved)	µg/l	1	ISO 17025	1.5	4.5	2.2	4.6	2.2

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

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Analytical Report Number: 21-73140
Project / Site name: Mayfied Depot

Your Order No: 14-575-NG-AD

Lab Sample Number				1861117	1861118	1861119
Sample Reference				BB1 - Screen - 005	BB1 - Screen - 006	BB1 - Screen - 007
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				04/05/2021	04/05/2021	04/05/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	50	450	450
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.4	5.1	5.6
Lead (dissolved)	µg/l	1	ISO 17025	4.8	2.4	4.6

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Analytical Report Number : 21-73140
Project / Site name: Mayfied Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-79947

Project / Site name:	Mayfield Depot	**Samples received on:**	08/06/2021
Your job number:	14 575	**Samples instructed on/ Analysis started on:**	09/06/2021
Your order number:	14575 NG AV	**Analysis completed by:**	15/06/2021
Report Issue Number:	1	**Report issued on:**	15/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897012	1897013	1897014	1897015	1897016
Sample Reference				Plots 1A 101	Plots 1A 102	Plots 1A 103	Plots 1A 104	Plots 1A 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	12	11	13	14
Total mass of sample received	kg	0.001	NONE	1.1	1.0	1.1	1.1	1.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.020	0.002	0.001	< 0.001	0.002
Asbestos Quantification Total	%	0.001	ISO 17025	0.020	0.002	0.001	< 0.001	0.002
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	7.3	6.5	3.0	3.1	3.0
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.36	0.43	0.53	0.39
Acenaphthene	mg/kg	0.05	MCERTS	3.0	3.5	2.7	2.6	2.7
Fluorene	mg/kg	0.05	MCERTS	1.9	3.4	2.4	2.5	2.4
Phenanthrene	mg/kg	0.05	MCERTS	12	17	15	17	14
Anthracene	mg/kg	0.05	MCERTS	3.3	3.5	3.3	3.9	2.6
Fluoranthene	mg/kg	0.05	MCERTS	16	19	17	19	18
Pyrene	mg/kg	0.05	MCERTS	17	18	16	18	17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.3	9.3	7.4	10	9.6
Chrysene	mg/kg	0.05	MCERTS	8.0	8.6	6.4	8.3	7.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	6.3	8.3	7.0	9.7	9.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.0	5.0	3.5	4.2	6.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	6.3	9.6	7.2	9.2	9.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.8	5.9	4.6	6.0	5.8
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.1	1.9	1.3	1.9	2.0
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.2	7.8	5.8	7.7	7.7
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	99.1	127	102	124	117
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	51	78	65	64	75
Barium (aqua regia extractable)	mg/kg	1	MCERTS	340	460	250	280	550
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	0.94	0.96	0.94	1.0
Boron (water soluble)	mg/kg	0.2	MCERTS	3.2	3.0	2.8	3.0	3.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	73	110	86	100	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	300	280	210	320
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.0	2.1	< 0.3	< 0.3	2.0
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	19	21	18	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	27	28	31	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	260	240	210	300

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

Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897012	1897013	1897014	1897015	1897016
Sample Reference				Plots 1A 101	Plots 1A 102	Plots 1A 103	Plots 1A 104	Plots 1A 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.8	< 2.0	6.3	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	20	18	13	11	31
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	91	77	67	61	130
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	120	95	86	72	160
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	16	10	6.3	6.7	6.8
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	44	26	19	21	23
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	170	100	81	78	120
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	210	180	120	130	180
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	440	310	220	230	340

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

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897017	1897018	1897019
Sample Reference				Plots 1A 106	Plots 1A 107	Plots 1A 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	12	13
Total mass of sample received	kg	0.001	NONE	1.1	1.1	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.001	< 0.001	0.006
Asbestos Quantification Total	%	0.001	ISO 17025	0.001	< 0.001	0.006
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	2.8	3.4	8.7
Acenaphthylene	mg/kg	0.05	MCERTS	0.39	0.33	0.46
Acenaphthene	mg/kg	0.05	MCERTS	2.3	2.6	5.8
Fluorene	mg/kg	0.05	MCERTS	2.3	2.4	4.7
Phenanthrene	mg/kg	0.05	MCERTS	12	3.2	24
Anthracene	mg/kg	0.05	MCERTS	2.4	3.3	4.6
Fluoranthene	mg/kg	0.05	MCERTS	16	14	27
Pyrene	mg/kg	0.05	MCERTS	15	15	26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	7.8	8.3	13
Chrysene	mg/kg	0.05	MCERTS	5.9	6.7	11
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	8.2	8.2	13
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.7	3.3	5.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.3	8.1	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	5.0	5.2	7.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.5	1.9	2.6
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.6	6.7	10
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	98.5	93.0	175
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	70	59	43
Barium (aqua regia extractable)	mg/kg	1	MCERTS	480	280	370
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.99	0.84	0.95
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	2.8	3.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	86	81
Lead (aqua regia extractable)	mg/kg	1	MCERTS	300	300	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.2	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	18	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	25	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290	210	230

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

Lab Sample Number				1897017	1897018	1897019
Sample Reference				Plots 1A 106	Plots 1A 107	Plots 1A 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	9.5	< 2.0	2.9
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	39	10	23
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	160	43	120
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	210	53	150

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	6.4	6.7	12
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	27	22	45
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	130	91	170
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	220	140	280
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	380	260	510

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot
Your Order No: 14575 NG AV

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-PL 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
1897012	Plots 1A 101		129	Loose Fibrous Debris	**Chrysotile**	0.020	**0.020**
1897013	Plots 1A 102		132	Loose Fibrous Debris & Loose Fibres	**Chrysotile**	0.002	**0.002**
1897014	Plots 1A 103		131	Loose Fibrous Debris	**Chrysotile**	0.001	**0.001**
1897015	Plots 1A 104		143	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897016	Plots 1A 105		127	Loose Fibrous Debris	**Chrysotile**	0.002	**0.002**
1897017	Plots 1A 106		147	Loose Fibres	**Chrysotile**	0.001	**0.001**
1897018	Plots 1A 107		140	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897019	Plots 1A 108		139	Loose Fibrous Debris	**Chrysotile**	0.006	**0.006**

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



Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AV

Lab Sample Number				1897020	1897021	1897022	1897023	1897024
Sample Reference				Plots 1A 101	Plots 1A 102	Plots 1A 103	Plots 1A 104	Plots 1A 105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	56	73	83	52	62
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.0	3.4	3.2	2.0	3.1
Lead (dissolved)	µg/l	1	ISO 17025	4.9	5.6	4.9	5.3	4.1

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Analytical Report Number: 21-79947
Project / Site name: Mayfield Depot

Your Order No: 14575 NG AV

Lab Sample Number				1897025	1897099	1897100
Sample Reference				Plots 1A 106	Plots 1A 107	Plots 1A 108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	170	78	28
Chromium (dissolved)	µg/l	0.4	ISO 17025	8.6	4.9	2.2
Lead (dissolved)	µg/l	1	ISO 17025	3.3	3.2	4.5

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Analytical Report Number : 21-79947
Project / Site name: Mayfield Depot

* 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 *
1897012	Plots 1A 101	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897013	Plots 1A 102	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897014	Plots 1A 103	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897015	Plots 1A 104	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897016	Plots 1A 105	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897017	Plots 1A 106	None Supplied	None Supplied	Brown clay and sand with brick and gravel
1897018	Plots 1A 107	None Supplied	None Supplied	Brown clay and sand with rubble and brick.
1897019	Plots 1A 108	None Supplied	None Supplied	Brown clay and sand with brick and gravel

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Analytical Report Number : 21-79947
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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

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Analytical Report Number : 21-79953

Project / Site name:	Mayfield Depot	**Samples received on:**	08/06/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	08/06/2021
Your order number:	14575-NG-AW	**Analysis completed by:**	11/06/2021
Report Issue Number:	1	**Report issued on:**	11/06/2021
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897048	1897049	1897050	1897051	1897052
Sample Reference				Plots 1B-101	Plots 1B-102	Plots 1B-103	Plots 1B-104	Plots 1B-105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	11	11	12	13
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	Chrysotile & Amosite	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	1.3	1.5	1.5	2.2	1.4
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.38	< 0.05	0.37	0.37	0.46
Fluorene	mg/kg	0.05	MCERTS	0.24	< 0.05	0.30	0.25	0.30
Phenanthrene	mg/kg	0.05	MCERTS	1.8	1.3	2.4	2.3	2.5
Anthracene	mg/kg	0.05	MCERTS	0.43	0.35	0.58	0.61	0.67
Fluoranthene	mg/kg	0.05	MCERTS	3.0	2.6	3.3	4.1	3.8
Pyrene	mg/kg	0.05	MCERTS	2.8	2.6	3.0	3.8	3.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	1.5	1.7	2.2	2.2
Chrysene	mg/kg	0.05	MCERTS	1.3	1.3	1.3	1.9	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.7	1.6	1.6	2.7	2.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.64	0.69	0.67	0.76	0.87
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.5	1.5	1.5	2.1	2.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	1.2	1.0	1.7	1.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.37	0.38	0.42	0.54	0.48
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.4	1.4	1.4	2.1	1.8
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	18.1	16.5	19.5	25.2	24.1
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	81	83	130	96	120
Barium (aqua regia extractable)	mg/kg	1	MCERTS	330	290	230	260	260
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.5	1.1	1.3	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.4	1.2	1.7	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	110	100	100	98
Lead (aqua regia extractable)	mg/kg	1	MCERTS	300	240	270	250	230
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	3.0	2.7	2.0	2.7	2.2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	24	21	25	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	29	26	26	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	340	250	210	230	250

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Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897048	1897049	1897050	1897051	1897052
Sample Reference				Plots 1B-101	Plots 1B-102	Plots 1B-103	Plots 1B-104	Plots 1B-105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	6.7	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	3.8	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	0.11	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	13	18	< 8.0	9.7	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	66	79	50	63	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	79	98	58	73	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	0.025	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	2.8	< 2.0	2.7	3.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	19	17	16	20	14
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	59	55	40	61	22
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	81	74	59	84	36

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

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Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897053	1897054	1897055
Sample Reference				Plots 1B-106	Plots 1B-107	Plots 1B-108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	8.7	10
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Amosite & Crocidolite	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.23	< 0.05	0.45
Fluorene	mg/kg	0.05	MCERTS	0.20	< 0.05	0.33
Phenanthrene	mg/kg	0.05	MCERTS	1.5	0.83	2.9
Anthracene	mg/kg	0.05	MCERTS	0.40	0.22	0.65
Fluoranthene	mg/kg	0.05	MCERTS	2.5	1.6	4.1
Pyrene	mg/kg	0.05	MCERTS	2.4	1.6	3.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	0.95	2.4
Chrysene	mg/kg	0.05	MCERTS	1.1	0.86	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.3	0.95	2.5
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.78	0.50	0.72
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	0.93	2.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	0.81	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.38	< 0.05	0.48
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	0.95	2.0
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	15.8	10.2	25.6
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	81	110	88
Barium (aqua regia extractable)	mg/kg	1	MCERTS	250	310	280
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.5	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.8	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	180	120	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	280	300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.9	2.7	2.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	23	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	28	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290	300	310

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Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

Lab Sample Number				1897053	1897054	1897055
Sample Reference				Plots 1B-106	Plots 1B-107	Plots 1B-108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	8.5	15
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	44	100
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	53	120
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	3.0	2.6
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	15	24
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	12	51	140
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	19	69	170

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

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

Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-AW

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-PL 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
1897048	Plots 1B-101		166	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897049	Plots 1B-102		129	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897050	Plots 1B-103		142	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897051	Plots 1B-104		141	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
1897052	Plots 1B-105		137	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897053	Plots 1B-106		154	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1897054	Plots 1B-107		148	Loose Fibres	**Amosite & Crocidolite**	< 0.001	**< 0.001**
1897055	Plots 1B-108		153	Loose Fibrous Debris	**Amosite**	0.001	**0.001**

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

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



Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AW

Lab Sample Number				1897056	1897057	1897058	1897059	1897060
Sample Reference				Plots 1B-101	Plots 1B-102	Plots 1B-103	Plots 1B-104	Plots 1B-105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	82	66	90	77	180
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.2	1.2	1.9	1.7	1.1
Lead (dissolved)	µg/l	1	ISO 17025	5.7	4.1	4.1	6.1	5.1

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

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



Analytical Report Number: 21-79953
Project / Site name: Mayfield Depot

Your Order No: 14575-NG-AW

Lab Sample Number				1897061	1897062	1897063
Sample Reference				Plots 1B-106	Plots 1B-107	Plots 1B-108
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2021	08/06/2021	08/06/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Speciated PAHs						
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	67	46	91
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.4	1.7	1.0
Lead (dissolved)	µg/l	1	ISO 17025	5.4	5.6	3.4

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 21-79953
Project / Site name: Mayfield Depot

* 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 *
1897048	Plots 1B-101	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1897049	Plots 1B-102	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation.
1897050	Plots 1B-103	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1897051	Plots 1B-104	None Supplied	None Supplied	Brown sandy clay with gravel.
1897052	Plots 1B-105	None Supplied	None Supplied	Brown sandy clay with gravel.
1897053	Plots 1B-106	None Supplied	None Supplied	Brown clay and loam with gravel.
1897054	Plots 1B-107	None Supplied	None Supplied	Brown clay and loam with gravel.
1897055	Plots 1B-108	None Supplied	None Supplied	Brown clay and loam with gravel and brick.

Analytical Report Number : 21-79953
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 21-79953
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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

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

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Analytical Report Number : 21-66628

Project / Site name:	Mayfield Depot	**Samples received on:**	01/04/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	01/04/2021
Your order number:	14575-NG-Q	**Analysis completed by:**	12/04/2021
Report Issue Number:	1	**Report issued on:**	12/04/2021
Samples Analysed:	2 soil samples		

Signed:

Zina Abdul Razzak
Senior Quality Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-66628
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-Q

Lab Sample Number				1825609	1825610
Sample Reference				HC101-101-P2	HC101-102-P2
Sample Number				None Supplied	None Supplied
Depth (m)				0.30	0.30
Date Sampled				17/03/2021	17/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	26	27
Total mass of sample received	kg	0.001	NONE	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-
General Inorganics					
pH - Automated	pH Units	N/A	MCERTS	7.3	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	14000	1500
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	1.9	0.52
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	3800	1000
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	1920	521
Sulphide	mg/kg	1	MCERTS	210	71
Total Sulphur	mg/kg	50	MCERTS	31000	8400
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	1.2	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.0	< 0.05
Fluorene	mg/kg	0.05	MCERTS	3.1	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	11	< 0.05
Anthracene	mg/kg	0.05	MCERTS	3.5	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	18	< 0.05
Pyrene	mg/kg	0.05	MCERTS	20	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	28	< 0.05
Chrysene	mg/kg	0.05	MCERTS	27	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	113	< 0.80
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	120	57
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	250	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	680	230
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1200	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	8.7	1.2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27	52
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	970	230

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

Analytical Report Number: 21-66628
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-Q

Lab Sample Number				1825609	1825610
Sample Reference				HC101-101-P2	HC101-102-P2
Sample Number				None Supplied	None Supplied
Depth (m)				0.30	0.30
Date Sampled				17/03/2021	17/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	150	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	800	250
TPH (C16 - C21)	mg/kg	1	MCERTS	8600	1600
TPH (C21 - C35)	mg/kg	1	MCERTS	65000	2600
TPH (C35 - C40)	mg/kg	10	MCERTS	12000	360
TPH Total C5 - C40	mg/kg	10	MCERTS	86000	4800

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

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Analytical Report Number: 21-66628
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-Q

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-PL 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
1825609	HC101-101-P2	0.30	116	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

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

Analytical Report Number : 21-66628
Project / Site name: Mayfield Depot

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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 *
1825609	HC101-101-P2	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
1825610	HC101-102-P2	None Supplied	0.3	Brown clay and loam with gravel.

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Analytical Report Number : 21-66628
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 21-66628
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Analytical Report Number : 21-66628
Project / Site name: Mayfield Depot

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
HC101-101-P2	None Supplied	S	1825609	c	Sulphide in soil	L010-PL	c
HC101-101-P2	None Supplied	S	1825609	c	TPH in (Soil)	L076-PL	c
HC101-101-P2	None Supplied	S	1825609	c	Total cyanide in soil	L080-PL	c
HC101-102-P2	None Supplied	S	1825610	c	Sulphide in soil	L010-PL	c
HC101-102-P2	None Supplied	S	1825610	c	TPH in (Soil)	L076-PL	c
HC101-102-P2	None Supplied	S	1825610	c	Total cyanide in soil	L080-PL	c

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Analytical Report Number : 21-66293

Project / Site name:	Mayfield Depot	**Samples received on:**	31/03/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	31/03/2021
Your order number:	14-575-NG-O	**Analysis completed by:**	08/04/2021
Report Issue Number:	1	**Report issued on:**	08/04/2021
Samples Analysed:	3 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

Analytical Report Number: 21-66293
Project / Site name: Mayfield Depot
Your Order No: 14-575-NG-O

Lab Sample Number				1823646	1823647	1823648
Sample Reference				Vailid - Riverside - T	Vailid - Riverside - M	Vailid - Riverside - B
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	14	18
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50
Speciated PAHs						
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.65
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.60
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	27	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	94	18
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	110	82

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 21-66293
Project / Site name: Mayfield Depot

* 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 *
1823646	ailid - Riverside -	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation.
1823647	ailid - Riverside -	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation.
1823648	ailid - Riverside -	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 21-66293
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	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.	L019-UK/PL	D	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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Analytical Report Number : 21-67747

Project / Site name:	Mayfield Depot	**Samples received on:**	09/04/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	09/04/2021
Your order number:	14575-NG-S	**Analysis completed by:**	16/04/2021
Report Issue Number:	1	**Report issued on:**	16/04/2021
Samples Analysed:	3 soil samples		

Signed: A Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

Analytical Report Number: 21-67747
Project / Site name: Mayfield Depot
Your Order No: 14575-NG-S

Lab Sample Number				1832010	1832011	1832012
Sample Reference				Valid-Riverside 02-T	Valid-Riverside 02-M	Valid-Riverside 02-B
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				08/04/2021	08/04/2021	08/04/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	18	11
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50
Speciated PAHs						
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.33	< 0.05
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	810	4900	18
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	40	33	8.7
Lead (aqua regia extractable)	mg/kg	1	MCERTS	360	530	130

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

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

Analytical Report Number : 21-67747
Project / Site name: Mayfield Depot

* 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 *
1832010	alid-Riverside 02	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1832011	alid-Riverside 02	None Supplied	None Supplied	Brown loam and clay with gravel.
1832012	alid-Riverside 02	None Supplied	None Supplied	Brown sandy clay with vegetation.

Analytical Report Number : 21-67747
Project / Site name: Mayfield Depot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	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.	L019-UK/PL	D	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

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M41 7JQ

e: mdee@e3p.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
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WD18 8YS

t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 21-80774

Project / Site name:	Mayfield Depo	**Samples received on:**	11/06/2021
Your job number:	14-575	**Samples instructed on/ Analysis started on:**	11/06/2021
Your order number:	14575-MSD-AY	**Analysis completed by:**	18/06/2021
Report Issue Number:	1	**Report issued on:**	18/06/2021
Samples Analysed:	5 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.
Preliminary reports provided at the request of the client should be considered as incomplete and have not been through the complete quality control procedure.
Results contained in preliminary reports may be subject to change and therefore should not be used as a basis for decision making, except at the risk of the client.
Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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

Analytical Report Number: 21-80774
Project / Site name: Mayfield Depo
Your Order No: 14575-MSD-AY

Lab Sample Number				1901513	1901514	1901515	1901516	1901517
Sample Reference				Plot M Tank North	Plot M Tank South	Plot M Tank East	Plot M Tank West	Plot M Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/06/2021	11/06/2021	11/06/2021	11/06/2021	11/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	12	29	18	7.5
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.9	9.9	7.8	8.9	10.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	2100	2700	2000	930	3900
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.17	0.29	0.25	0.26	0.50
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	330	570	490	520	1000
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	167	287	245	261	499
Sulphide	mg/kg	1	MCERTS	11	4.7	3.2	20	6.3
Total Sulphur	mg/kg	50	MCERTS	970	1300	1200	370	1500
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.79
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	1.2	< 0.05	< 0.05	3.6
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.73	< 0.05	< 0.05	2.4
Phenanthrene	mg/kg	0.05	MCERTS	0.31	7.2	0.48	< 0.05	20
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.9	< 0.05	< 0.05	5.5
Fluoranthene	mg/kg	0.05	MCERTS	0.42	12	0.68	< 0.05	29
Pyrene	mg/kg	0.05	MCERTS	0.43	12	0.77	< 0.05	26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.31	5.5	0.44	< 0.05	13
Chrysene	mg/kg	0.05	MCERTS	0.27	5.4	0.33	< 0.05	11
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	4.8	0.56	< 0.05	12
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.5	0.22	< 0.05	4.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	5.3	0.34	< 0.05	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	2.4	< 0.05	< 0.05	6.0
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.82	< 0.05	< 0.05	1.8
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	3.5	< 0.05	< 0.05	7.3
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1.74	64.8	3.82	< 0.80	156

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

Analytical Report Number: 21-80774
Project / Site name: Mayfield Depo
Your Order No: 14575-MSD-AY

Lab Sample Number				1901513	1901514	1901515	1901516	1901517
Sample Reference				Plot M Tank North	Plot M Tank South	Plot M Tank East	Plot M Tank West	Plot M Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/06/2021	11/06/2021	11/06/2021	11/06/2021	11/06/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	61	21	26	11	21
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	52	17	28	27	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	780	61	120	26	52
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1900	310	280	160	210
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.0	1.0	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	16	24	30	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	190	97	57	160
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	3.1	5.5	< 2.0	2.1
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	17	41	< 4.0	31
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	55	180	5.8	120
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	190	2700	4.4	330
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	56	200	< 10	57
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	320	3200	10	540

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

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Analytical Report Number : 21-80774
Project / Site name: Mayfield Depo

* 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 *
1901513	Plot M Tank Nort	None Supplied	None Supplied	Brown loam and clay with rubble.
1901514	Plot M Tank Sout	None Supplied	None Supplied	Brown loam and clay with rubble.
1901515	Plot M Tank Eas	None Supplied	None Supplied	Brown clay and loam with gravel.
1901516	Plot M Tank Wes	None Supplied	None Supplied	Brown clay and sand with gravel.
1901517	Plot M Tank Base	None Supplied	None Supplied	Brown loam and sand with rubble.

Analytical Report Number : 21-80774
Project / Site name: Mayfield Depo

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 21-80774
Project / Site name: Mayfield Depo

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

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

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

APPENDIX VI
PHOTOGRAPHS

PLATE 1 SUPPLEMENTARY INVESTIGATION – TRIAL PIT TP107



PLATE 2 PH313 HOTSPOT REMOVAL



PLATE 3 TP302 HOTSPOT REMOVAL



PLATE 4 TP302 HOTSPOT REMOVAL



PLATE 5 PH314 HOTSPOT REMOVAL



PLATE 6 PH314 HOTSPOT REMOVAL



PLATE 7 TP103 HOTSPOT REMOVAL



PLATE 8 TP102 HOTSPOT REMOVAL



PLATE 9 HYDROCARBON SOURCE 1 REMOVAL



PLATE 10 HYDROCARBON SOURCE 3 HOTSPOT REMOVAL



PLATE 11 EXAMPLE OF SCREENED FILL AND AGGRECIATE STOCKPILES





PLATE 12 GROUTING OF MONITOURING WELLS





PLATE 13 DECOMMISSIONG OF HISTORIC WELLS





PLATE 14 PROTECA-LINE BARRIER PIPE FOR WATER SUPPLY PIPEWORK.



APPENDIX VII
GEOTECHNICAL TESTING RESULTS

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Greater Manchester
M41 7JQ

Contract Mayfield Depot

Job Number MRN 4098/5
Date of Issue 09 March 2021

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

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

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted. This does not, however, guarantee the balance of the materials from which the tested samples have been taken to be of equal quality.

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

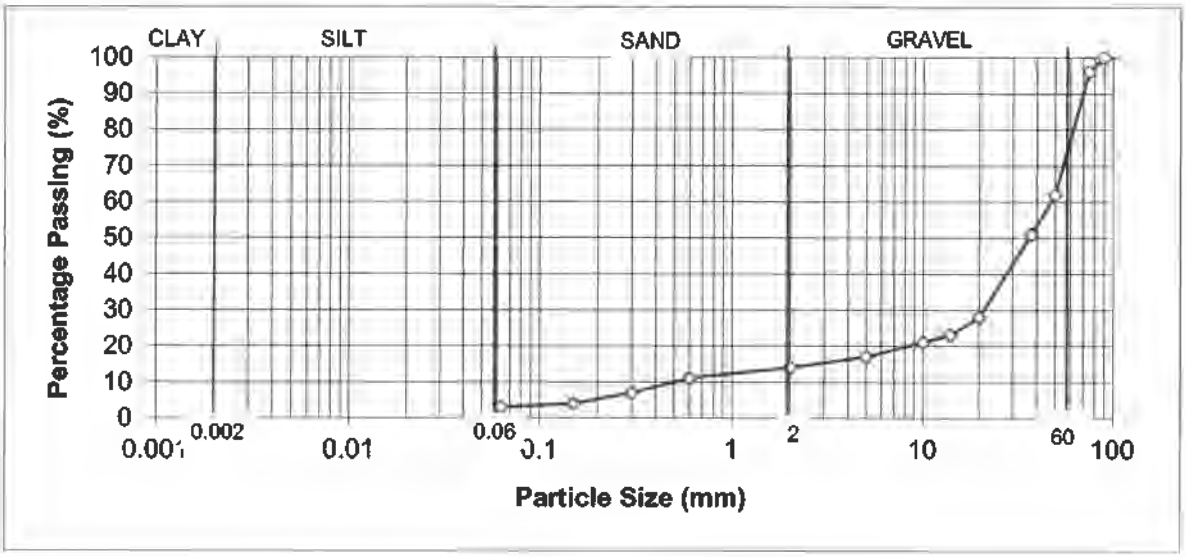
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	Crush-103-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96639	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	21	15-60
90	100	80-100	5	17	10-45
75	96	65-100	2	14	
50	62		0.6	11	0-25
37.5	51	45-100	0.3	7	
20	28		0.15	4	
14	23		0.063	3	0-12



REMARKS
Sample complies with the grading requirements for a 6F2 material (SHW 2016)
As received moisture content = 3.7%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1590

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

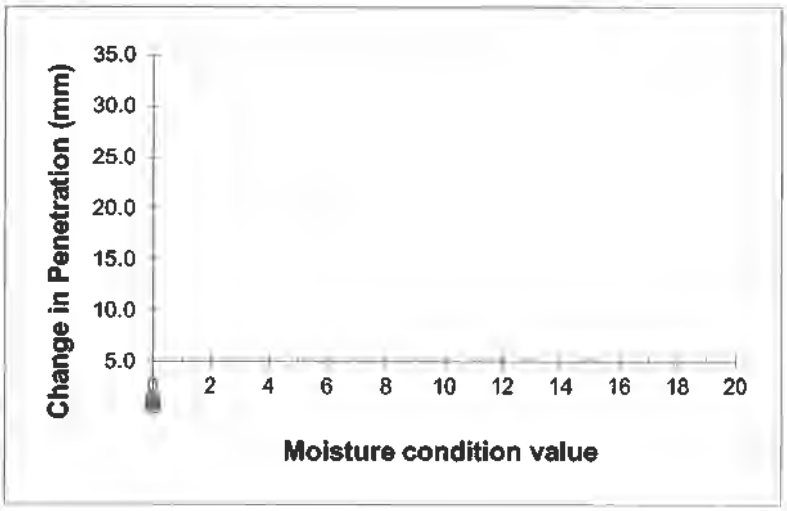
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	Crush-103-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96639	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	72%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	78.9	0.9
2	78.5	
3	78.2	
4	78.0	
6		
8		
12		
16		
24		
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 0.0
Moisture content = 4.4



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

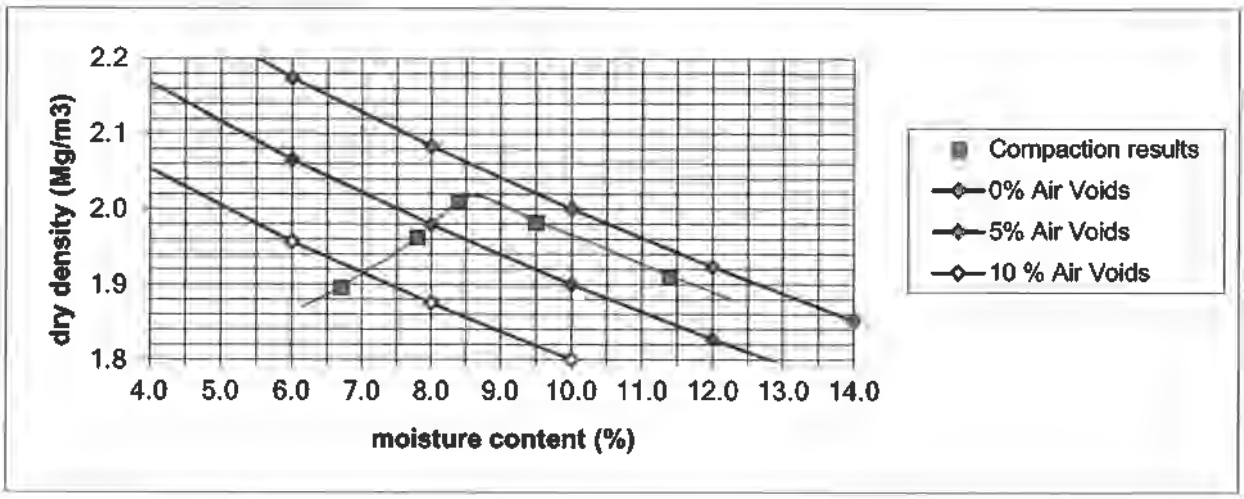
DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER
BS1377: PART 4: 1990
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LAB2BEL	Crush-103-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96639	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		6.7	1.895
2		7.8	1.962
3		8.4	2.009
4		9.5	1.982
5		11.4	1.909
	Optimum	8.6	
	Maximum		2.02
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES
Percentage of material retained on 37.5mm sieve = 49%
Percentage of material retained on 20mm sieve = 72%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

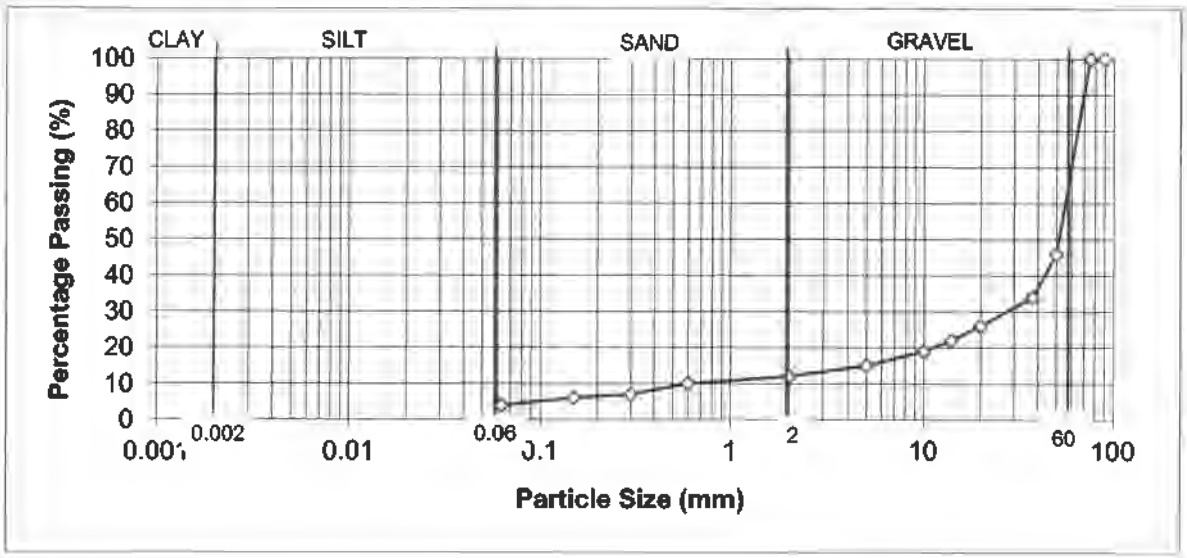
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	Crush-104-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96640	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	19	
90	100		5	15	
75	100		2	12	
50	46		0.6	10	
37.5	34		0.3	7	
20	26		0.15	6	
14	22		0.063	4	<15



REMARKS
Sample complies with the grading requirements for a 1A material (SHW 2016)
As received moisture content = 5.3%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

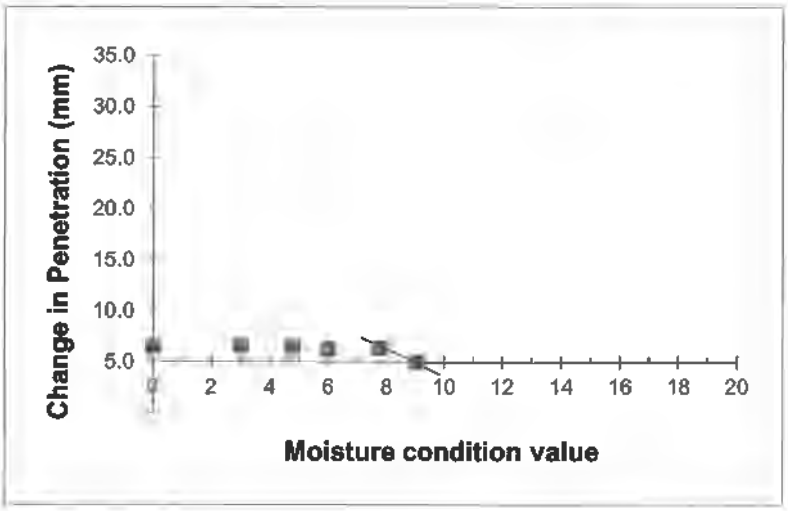
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	Crush-104-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96640	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	74%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	85.6	6.4
2	82.2	6.5
3	80.4	6.4
4	79.2	6.2
6	77.4	6.3
8	75.7	4.9
12	74.0	
16	73.0	
24	71.1	
32	70.8	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.8
Moisture content = 5.8



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

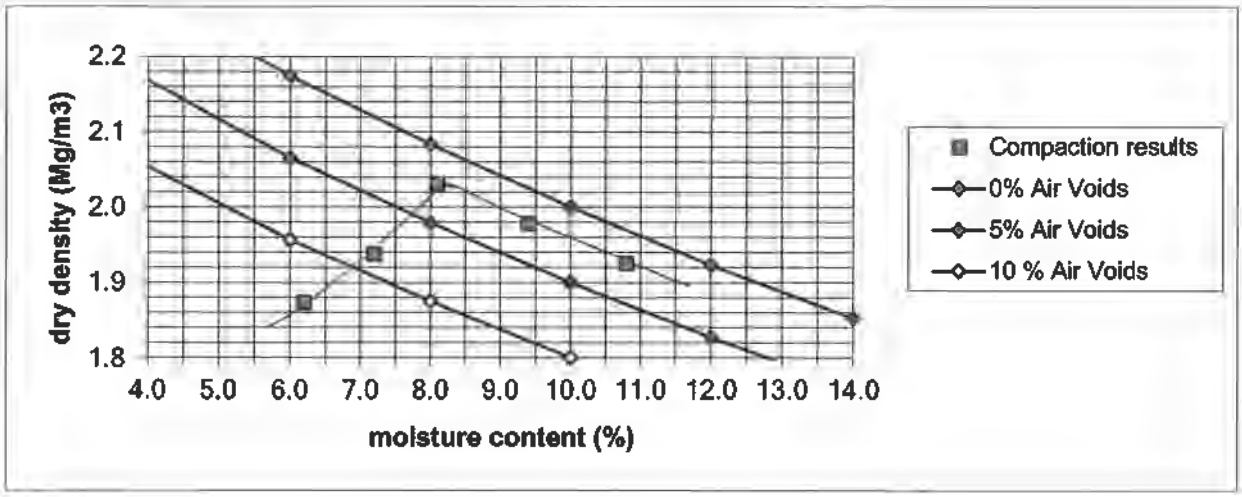
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LAB2BEL	Crush-104-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96640	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		6.2	1.873
2		7.2	1.937
3		8.1	2.031
4		9.4	1.978
5		10.8	1.925
	Optimum	8.2	
	Maximum		2.03
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 66%

Percentage of material retained on 20mm sieve = 74%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1980

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

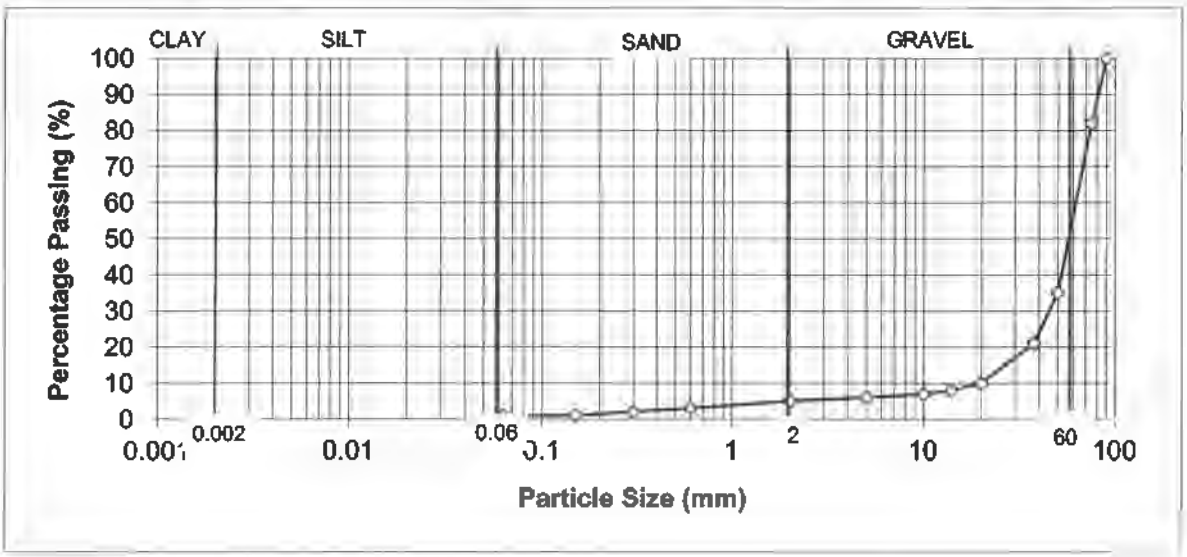
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	Crush-105-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96641	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	7	
90	100		5	6	
75	82		2	5	
50	35		0.6	3	
37.5	21		0.3	2	
20	10		0.15	1	
14	8		0.063	1	<15



REMARKS

Sample complies with the grading requirements for a 1B material (SHW 2016)

As received moisture content = 3.1%, Uniformity coefficient = <10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
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TEL 0161 475 0870

UKAS TESTING
1680

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

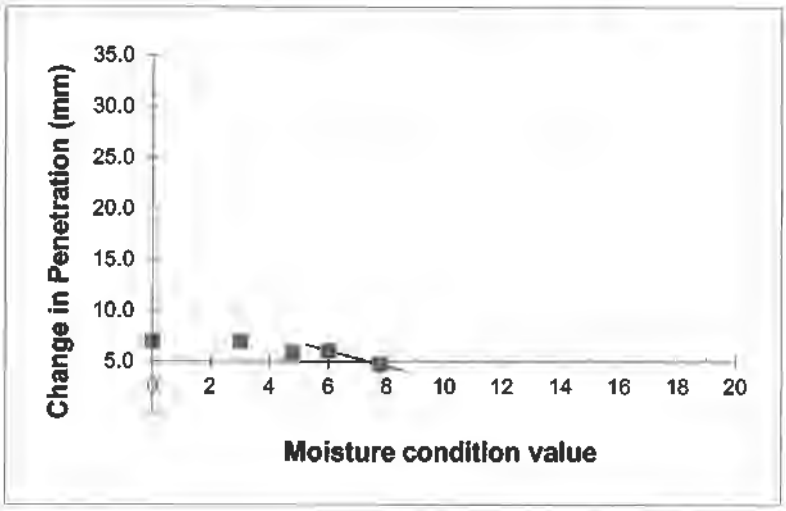
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	Crush-105-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96641	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	90%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	85.8	7.0
2	82.2	6.9
3	79.9	5.8
4	76.6	6.0
6	75.3	4.7
8	74.1	
12	72.8	
16	71.9	
24		
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 7.2
Moisture content = 4.1



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 09-Mar-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1589

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

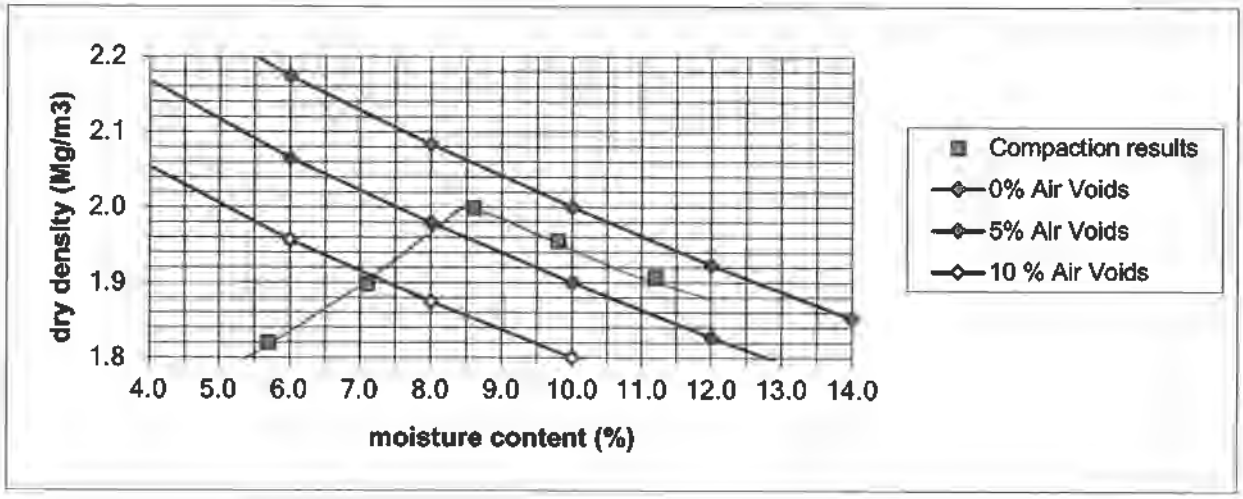
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LAB2BEL	Crush-105-NG-PB	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96641	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		5.7	1.820
2		7.1	1.898
3		8.6	1.999
4		9.8	1.955
5		11.2	1.907
	Optimum	8.5	
	Maximum		2.00
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 79%

Percentage of material retained on 20mm sieve = 90%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

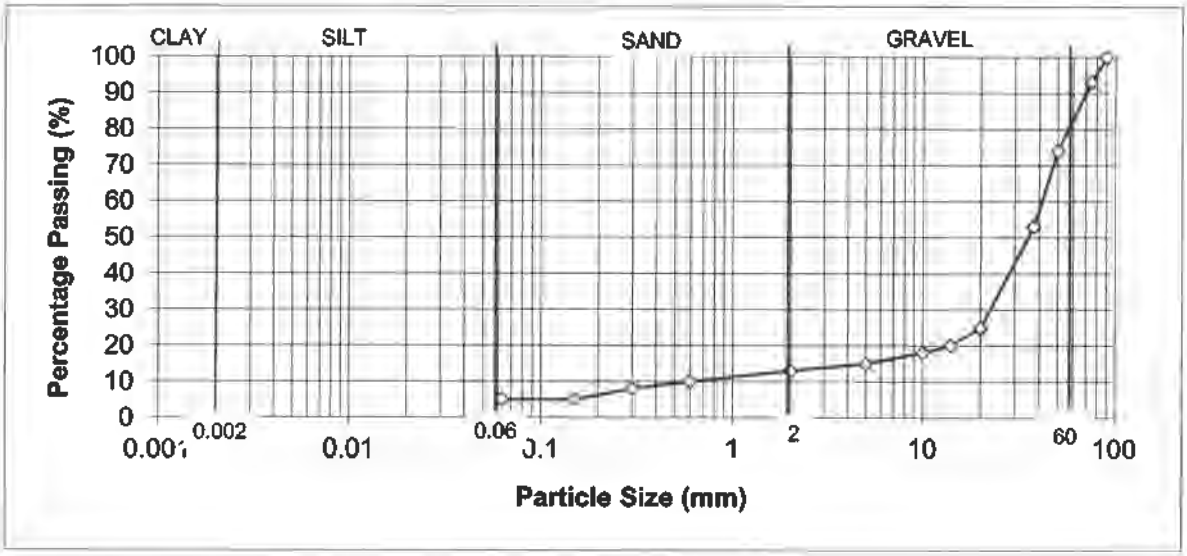
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	MG-Screenlawn-001	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96642	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		10	18	
90	100		5	15	
75	93		2	13	
50	74		0.6	10	
37.5	53		0.3	8	
20	25		0.15	5	
14	20		0.063	5	



REMARKS
As received moisture content = 12%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

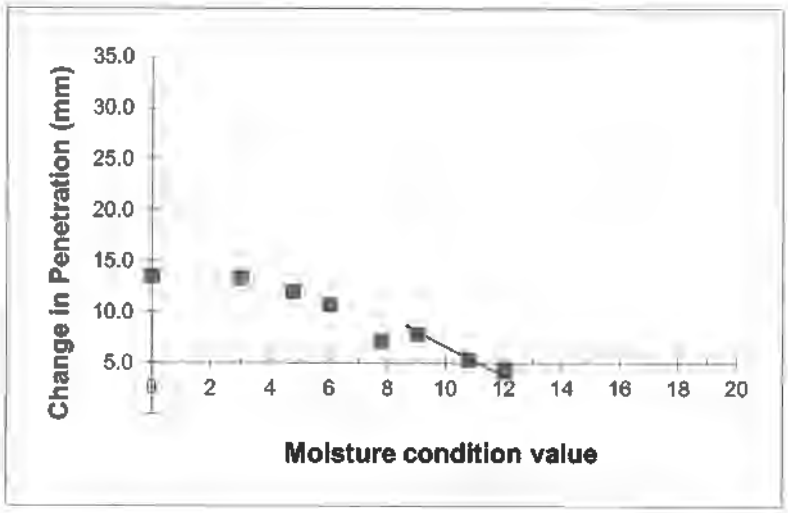
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	MG-Screenlawn-001	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96642	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	75%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	90.4	13.5
2	84.3	13.3
3	80.1	12.0
4	76.9	10.7
6	71.2	7.1
8	71.0	7.8
12	68.1	5.3
16	66.2	4.2
24	64.1	
32	63.2	
48	62.8	
64	62.0	
96		
128		
192		
256		

Moisture Condition Value = 11.0
Moisture content = 15



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 09-Mar-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

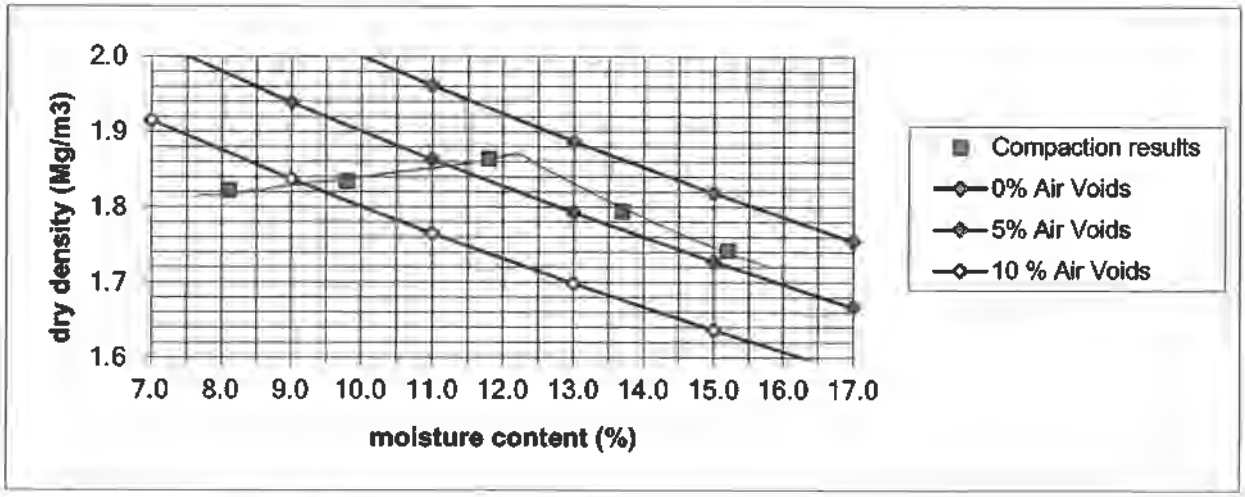
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LAB2BEL	MG-Screenlawn-001	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96642	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.1	1.822
2		9.8	1.834
3		11.8	1.864
4		13.7	1.794
5		15.2	1.742
	Optimum	12.0	
	Maximum		1.87
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 47%

Percentage of material retained on 20mm sieve = 75%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

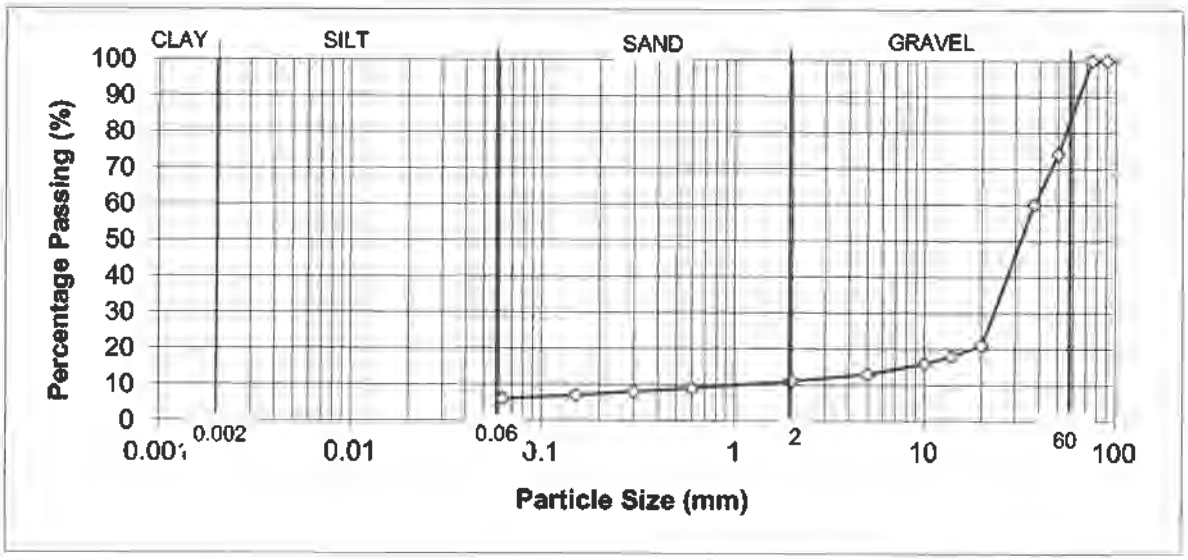
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	MG-Screenlawn-002	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96643	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		10	16	
90	100		5	13	
75	100		2	11	
50	74		0.6	9	
37.5	60		0.3	8	
20	21		0.15	7	
14	18		0.063	6	



REMARKS
As received moisture content = 11%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE

BS 1377: PART 4: Clause 5.4: 1990

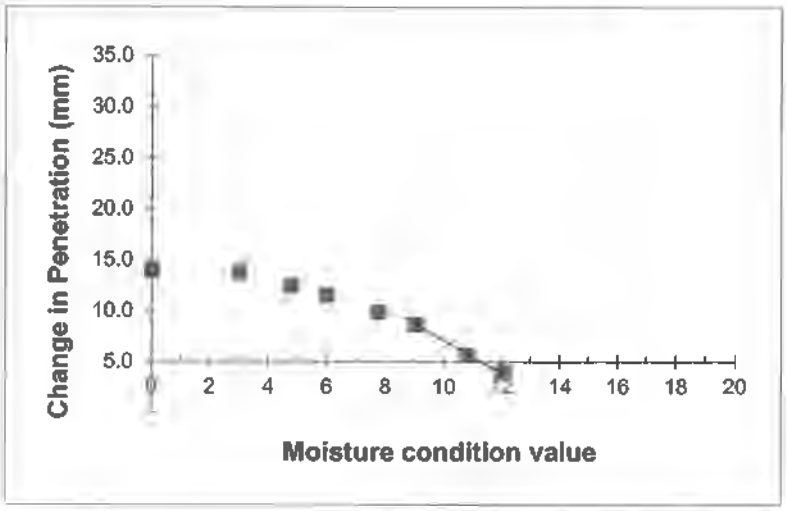
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	MG-Screenlawn-002	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96643	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	79%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	91.7	13.9
2	85.4	13.7
3	80.5	12.4
4	77.8	11.5
6	74.0	9.8
8	71.7	8.6
12	68.1	5.6
16	66.3	4.0
24	64.2	
32	63.1	
48	62.5	
64	62.3	
96		
128		
192		
256		

Moisture Condition Value = 11.1
Moisture content = 15



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

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MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1560

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

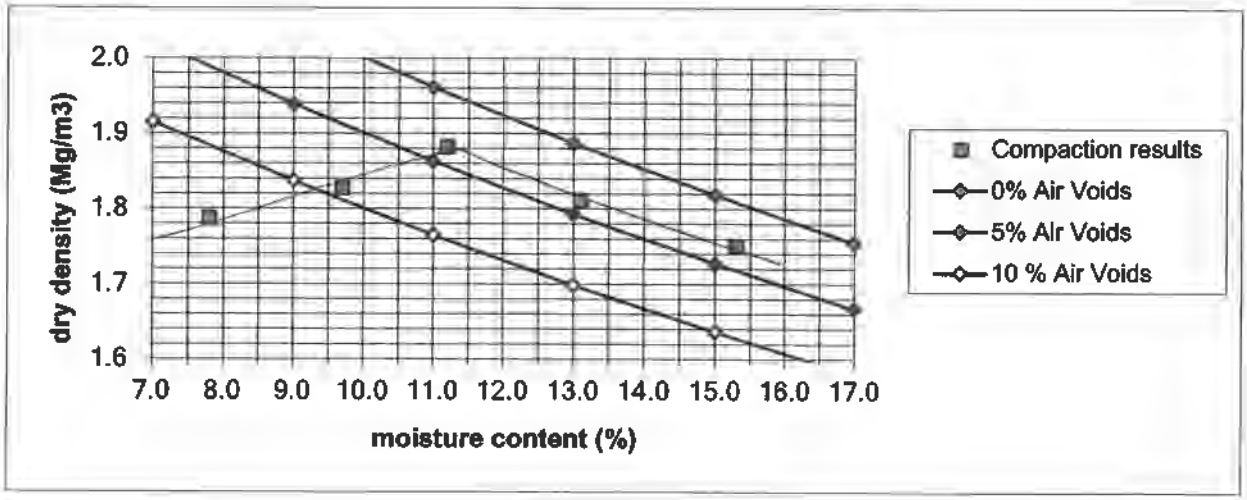
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LAB2BEL	MG-Screenlawn-002	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96643	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		7.8	1.787
2		9.7	1.827
3		11.2	1.882
4		13.1	1.811
5		15.3	1.75
	Optimum	11.0	
	Maximum		1.88
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 40%

Percentage of material retained on 20mm sieve = 79%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

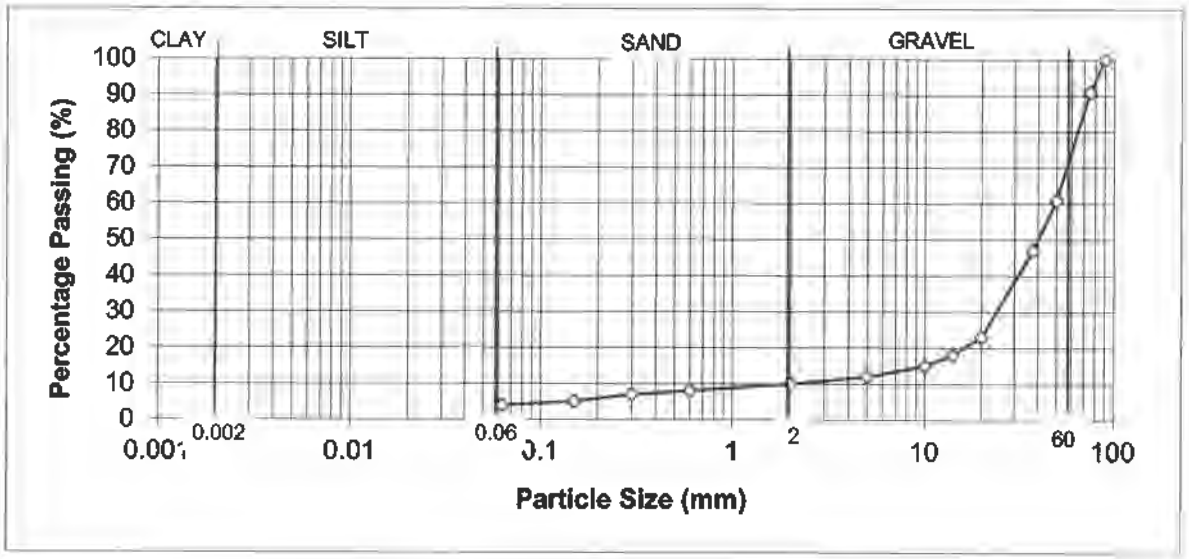
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	MG-Screenlawn-003	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96644	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		10	15	
90	100		5	12	
75	91		2	10	
50	61		0.6	8	
37.5	47		0.3	7	
20	23		0.15	5	
14	18		0.063	4	



REMARKS

As received moisture content = 13%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

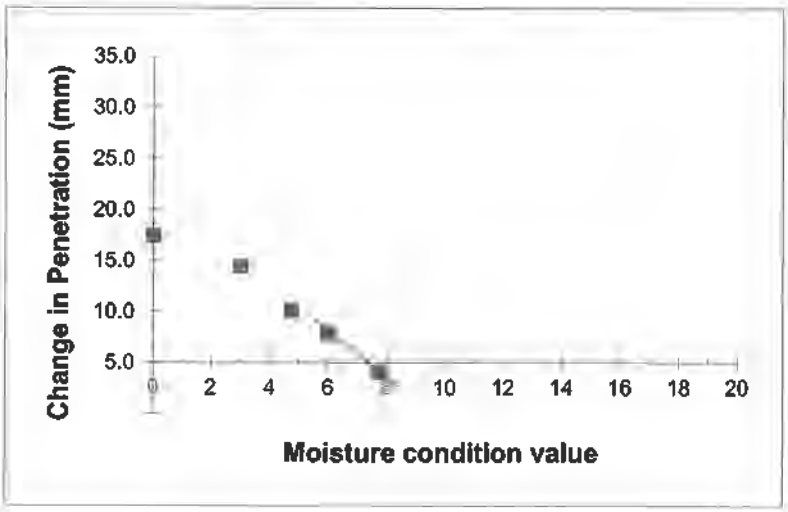
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LABEL	MG-Screenlawn-003	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96644	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	77%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	92.0	17.4
2	83.2	14.4
3	77.7	10.1
4	74.6	7.8
6	70.7	4.0
8	68.8	
12	67.6	
16	66.8	
24	66.7	
32	66.6	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 7.3
Moisture content = 19



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

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MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1586

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

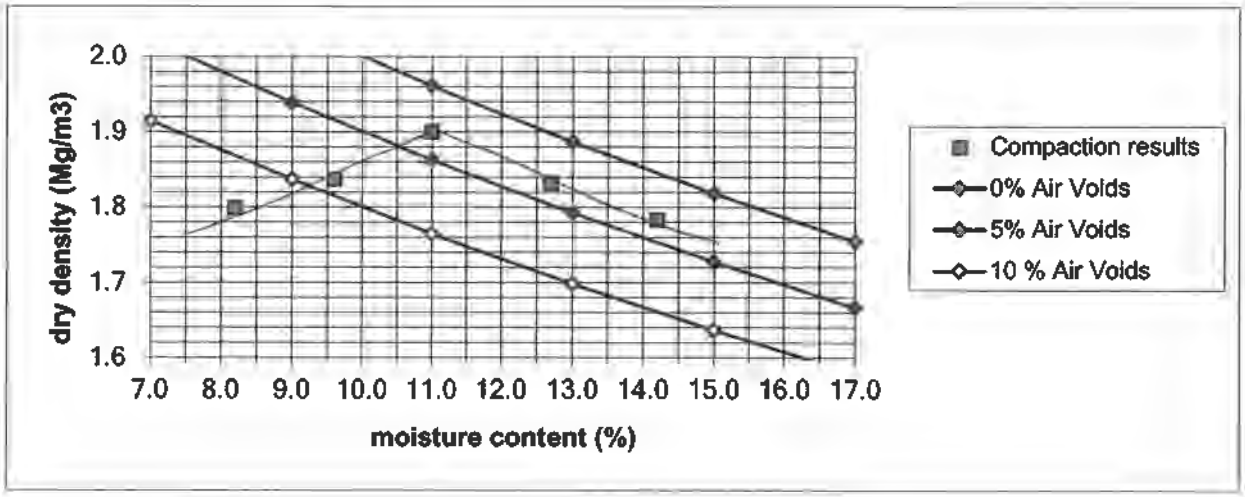
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/5

SAMPLE LAB2BEL	MG-Screenlawn-003	DATE SAMPLED	01-Mar-21
LAB SAMPLE No	96644	DATE RECEIVED	02-Mar-21
DATE TESTED	03-Mar-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.2	1.799
2		9.6	1.837
3		11.0	1.900
4		12.7	1.832
5		14.2	1.783
	Optimum	11.0	
	Maximum		1.90
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 53%

Percentage of material retained on 20mm sieve = 77%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 09-Mar-21

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Greater Manchester
M41 7JQ

Contract Mayfield Depot

Job Number MRN 4098/10
Date of Issue 15 April 2021
Page **1 of 5**

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

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

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted. This does not, however, guarantee the balance of the materials from which the tested samples have been taken to be of equal quality.

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1590

TEST CERTIFICATE

MOISTURE CONTENT DETERMINATION
BS 1377 : PART 2 : 1990 (OVEN DRY)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/10

DATE SAMPLED	01 April 2021	SAMPLED BY	Client
DATE TESTED	09 April 2021	DATE RECEIVED	01 April 2021

Sample No	Site Reference	Material	Sample Location	Moisture Content %
97555	MG-Screenlawn-004	Granular Fill	Not advised	11
97556	MG-Screenlawn-005	Granular Fill	Not advised	8.3
97557	MG-Screenlawn-006	Granular Fill	Not advised	6.9

REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 15 April 2021

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1589

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

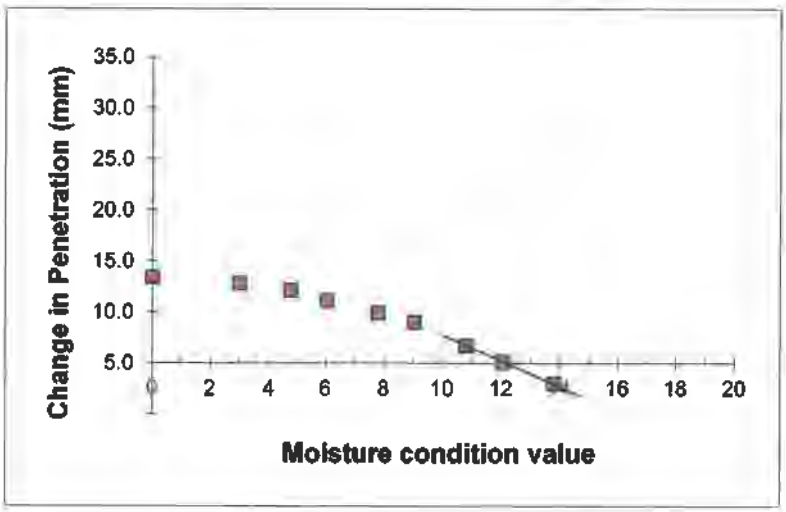
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/10

SAMPLE LABEL	MG-Screenlawn-004	DATE SAMPLED	01-Apr-21
LAB SAMPLE No	97555	DATE RECEIVED	01-Apr-21
DATE TESTED	09-Apr-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	49%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	94.3	13.4
2	87.8	12.8
3	84.0	12.1
4	80.9	11.1
6	77.3	9.9
8	75.0	9.0
12	71.9	6.7
16	69.8	5.1
24	67.4	3.0
32	66.0	
48	65.2	
64	64.7	
96	64.4	
128		
192		
256		

Moisture Condition Value = 12.1
Moisture content = 14



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 15-Apr-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

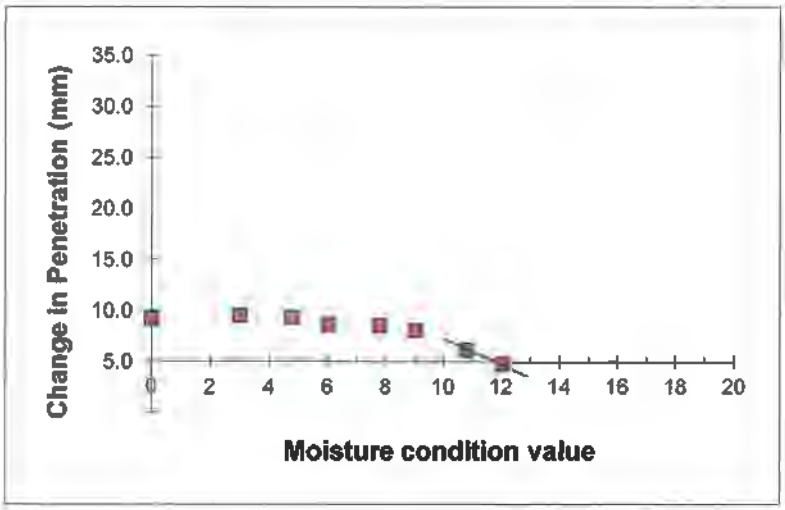
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/10

SAMPLE LABEL	MG-Screenlawn-005	DATE SAMPLED	01-Apr-21
LAB SAMPLE No	97556	DATE RECEIVED	01-Apr-21
DATE TESTED	09-Apr-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	68%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	98.3	9.2
2	94.0	9.5
3	91.4	9.3
4	89.1	8.6
6	86.3	8.5
8	84.5	8.0
12	82.1	6.1
16	80.5	4.7
24	77.8	
32	76.5	
48	76.0	
64	75.8	
96		
128		
192		
256		

Moisture Condition Value = 11.7
Moisture content = 10



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 15-Apr-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1880

TEST CERTIFICATE

MOISTURE CONDITION VALUE

BS 1377: PART 4: Clause 5.4: 1990

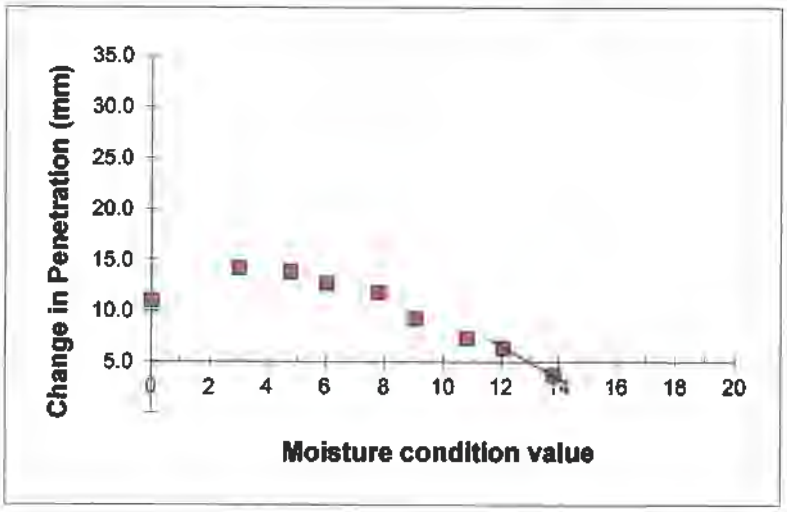
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/10

SAMPLE LABEL	MG-Screenlawn-006	DATE SAMPLED	01-Apr-21
LAB SAMPLE No	97557	DATE RECEIVED	01-Apr-21
DATE TESTED	09-Apr-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	63%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	97.7	11.0
2	92.8	14.2
3	89.4	13.8
4	86.7	12.7
6	83.0	11.8
8	78.6	9.2
12	75.6	7.3
16	74.0	6.3
24	71.2	3.7
32	69.4	
48	68.3	
64	67.7	
96	67.5	
128		
192		
256		

Moisture Condition Value = 11.9
Moisture content = 9.4



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 15-Apr-21

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Greater Manchester
M41 7JQ

Contract Mayfield Depot

Job Number MRN 4098/18
Date of Issue 25 May 2021

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

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

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted. This does not, however, guarantee the balance of the materials from which the tested samples have been taken to be of equal quality.

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

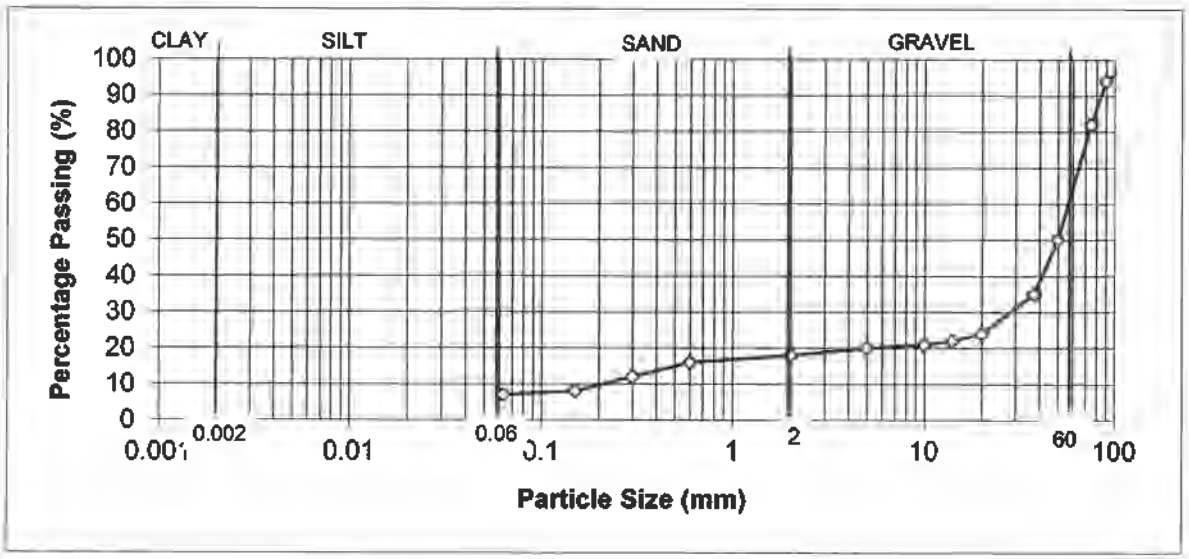
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	Crush-105-NG	DATE SAMPLED	12-May-21
LAB SAMPLE No	98919	DATE RECEIVED	13-May-21
DATE TESTED	17-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	21	
90	94		5	20	
75	82		2	18	
50	50		0.6	16	
37.5	35		0.3	12	
20	24		0.15	8	
14	22		0.063	7	<15



REMARKS
Sample complies with the grading requirements for a 1A material (SHW 2016)
As received moisture content = 12%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 25-May-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1680

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

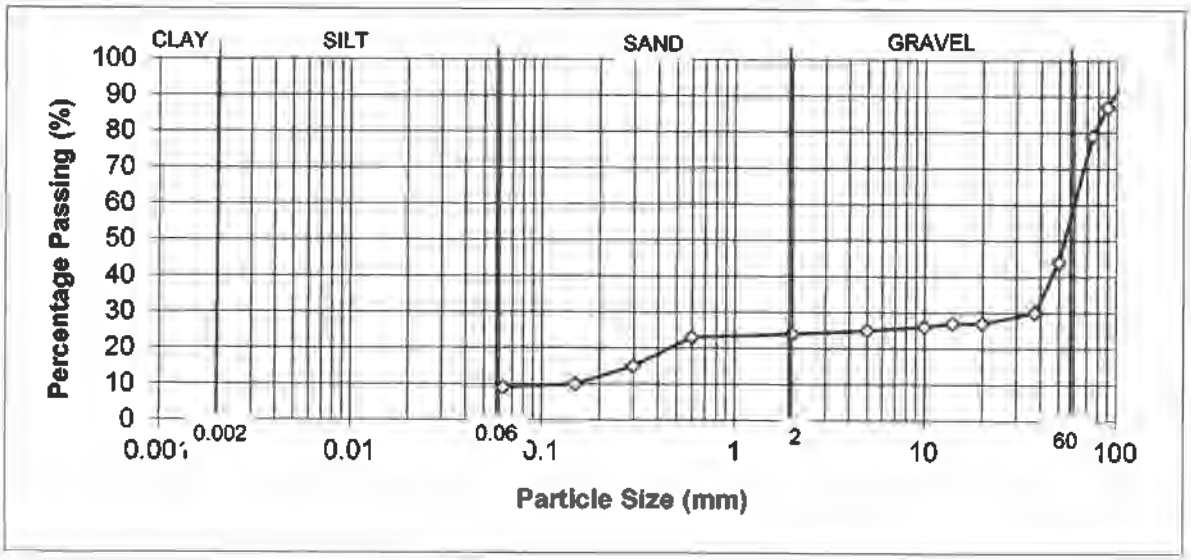
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	Crush-106-NG	DATE SAMPLED	12-May-21
LAB SAMPLE No	98920	DATE RECEIVED	13-May-21
DATE TESTED	17-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	26	
90	87		5	25	
75	79		2	24	
50	44		0.6	23	
37.5	30		0.3	15	
20	27		0.15	10	
14	27		0.063	9	<15



REMARKS
Sample complies with the grading requirements for a 1A material (SHW 2016)
As received moisture content = 12%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 25-May-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1880

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

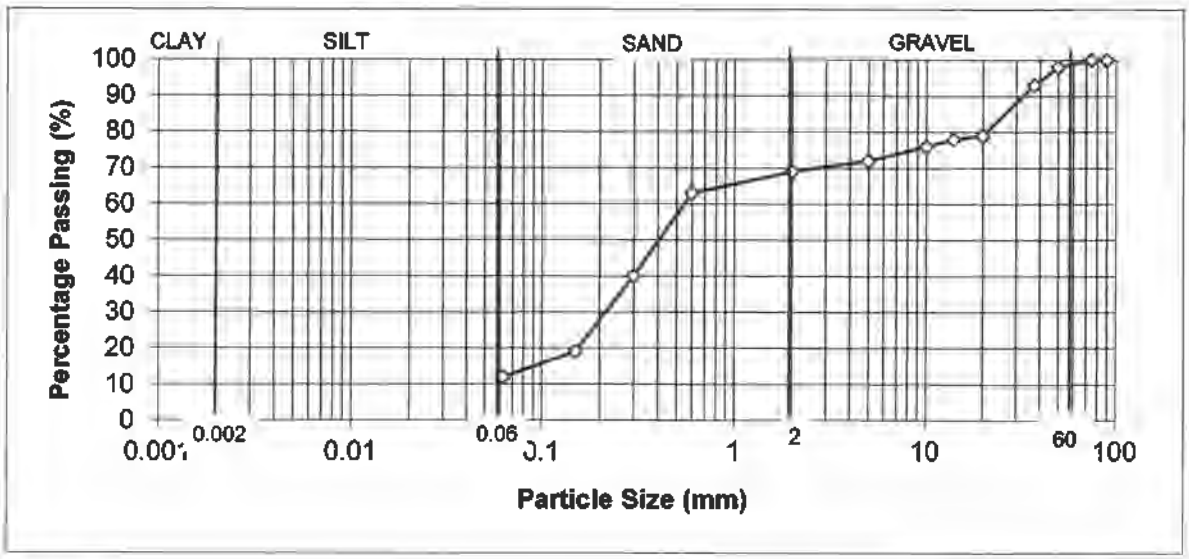
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	BB10-GEO-001	DATE SAMPLED	12-May-21
LAB SAMPLE No	98921	DATE RECEIVED	13-May-21
DATE TESTED	17-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	76	
90	100		5	72	
75	100		2	69	
50	98		0.6	63	
37.5	93		0.3	40	
20	79		0.15	19	
14	78		0.063	12	<15



REMARKS
Sample complies with the grading requirements for a 1B material (SHW 2016)
As received moisture content = 17%, Uniformity coefficient = <10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 25-May-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1560

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

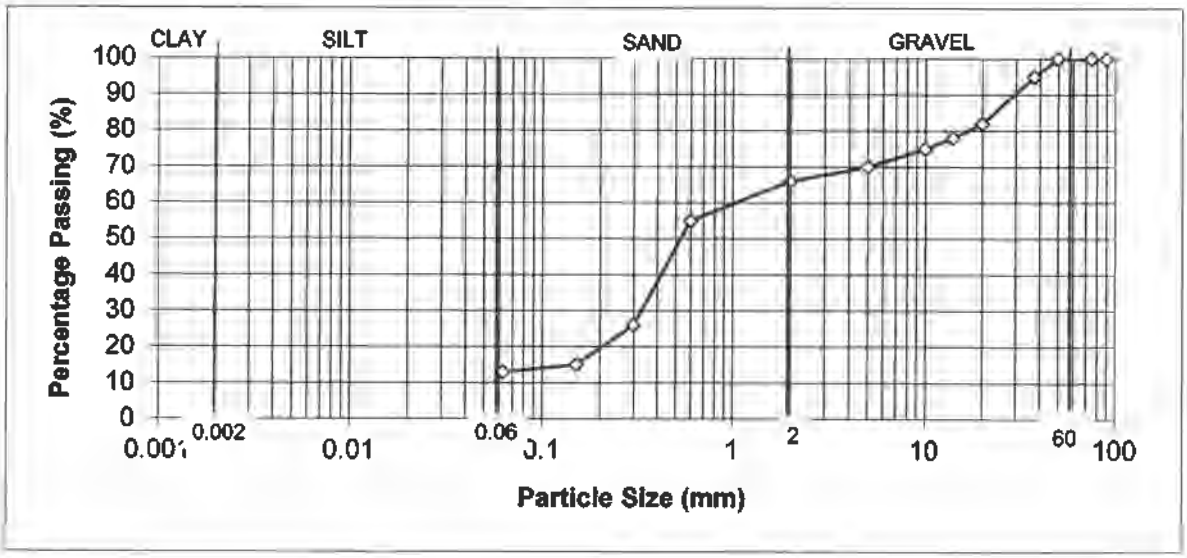
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	BB10-GEO-002	DATE SAMPLED	12-May-21
LAB SAMPLE No	98922	DATE RECEIVED	13-May-21
DATE TESTED	17-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	75	
90	100		5	70	
75	100		2	66	
50	100		0.6	55	
37.5	95		0.3	26	
20	82		0.15	15	
14	78		0.063	13	<15



REMARKS
Sample complies with the grading requirements for a 1B material (SHW 2016)
As received moisture content = 16%, Uniformity coefficient = <10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 25-May-21

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Greater Manchester
M41 7JQ

Contract Mayfield Depot

Job Number MRN 4098/19
Date of Issue 27 May 2021
Page **1 of 9**

Approved Signatories

S J Hutchings, O P Davies

Notes

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form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 2.5 kg RAMMER

BS1377: PART 4: 1990

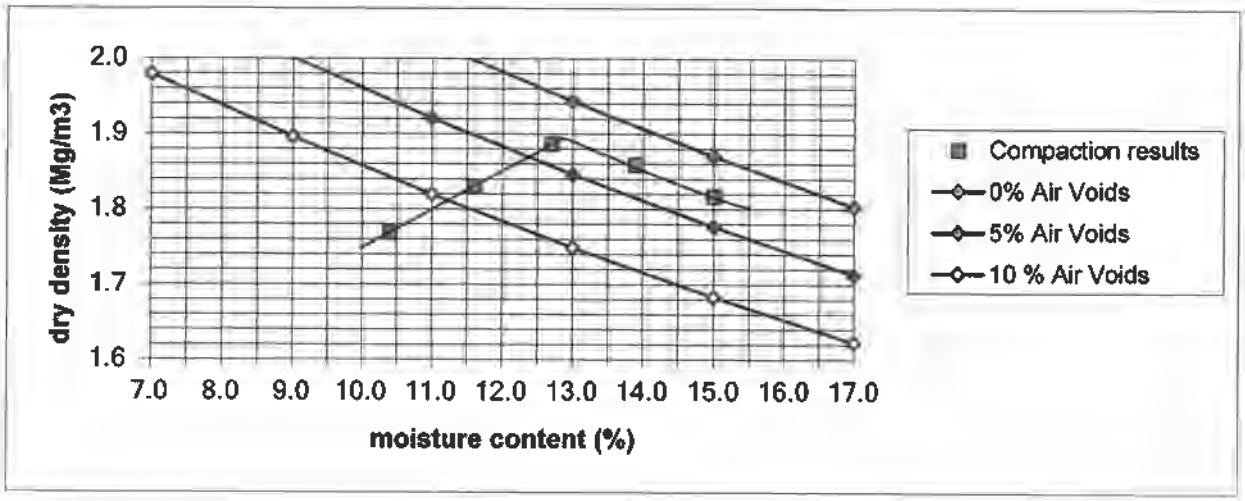
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	Crush-105-NG	DATE SAMPLED	12-May-21
LAB SAMPLE No	98919	DATE RECEIVED	13-May-21
DATE TESTED	18-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried/Single Sample

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		10.4	1.769
2		11.6	1.830
3		12.7	1.887
4		13.9	1.859
5		15.0	1.817
	Optimum	12.0	
	Maximum		1.89
	Particle Density	2.60 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 65%

Percentage of material retained on 20mm sieve = 76%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 2.5 kg RAMMER

BS1377: PART 4: 1990

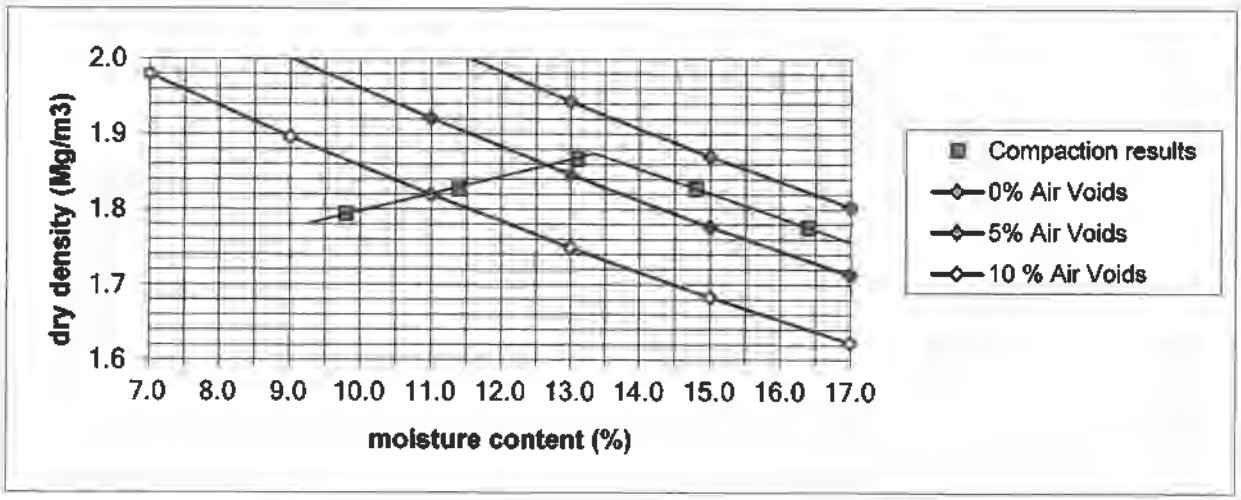
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	Crush-106-NG	DATE SAMPLED	12-May-21
LAB SAMPLE No	98920	DATE RECEIVED	13-May-21
DATE TESTED	18-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried/Single Sample

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		9.8	1.794
2		11.4	1.827
3		13.1	1.867
4		14.8	1.827
5		16.4	1.776
	Optimum	13.0	
	Maximum		1.87
	Particle Density	2.60 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 70%

Percentage of material retained on 20mm sieve = 73%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

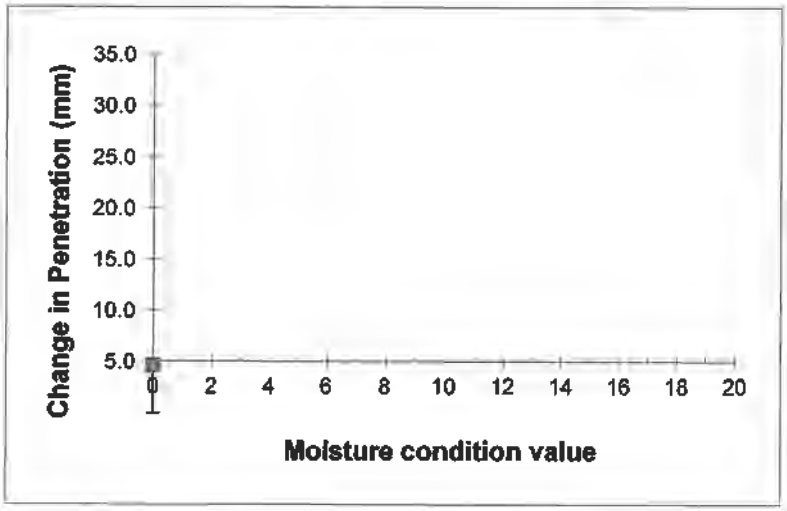
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/19

SAMPLE LABEL	Crush-106-NG	DATE SAMPLED	12-May-21
LAB SAMPLE No	98920	DATE RECEIVED	13-May-21
DATE TESTED	24-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	73%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	69.7	4.6
2	66.0	
3	65.5	
4	65.1	
6		
8		
12		
16		
24		
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 0.0
Moisture content = 22



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 2.5 kg RAMMER

BS1377: PART 4: 1990

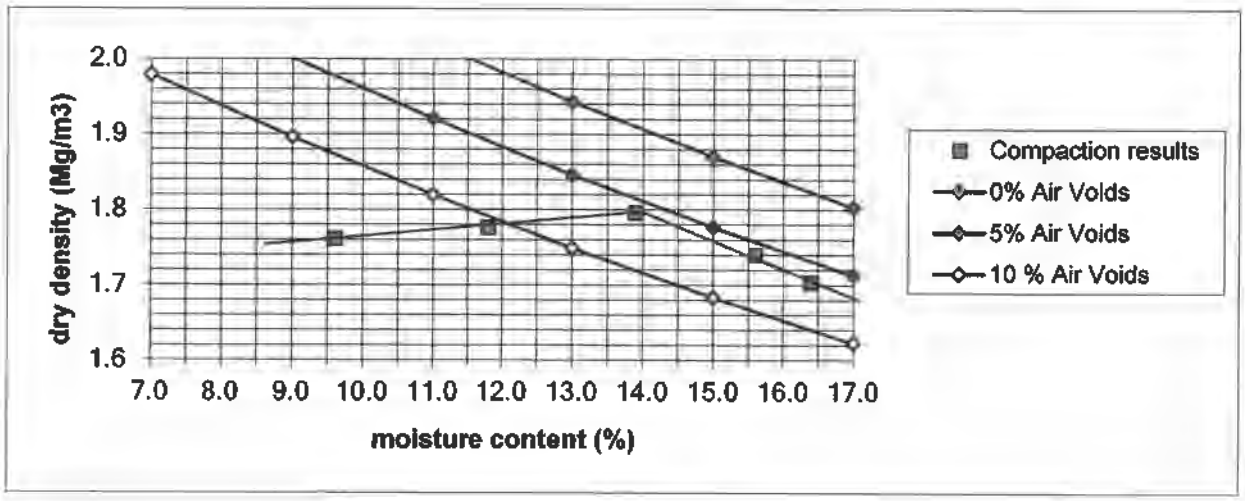
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	BB10-GEO-001	DATE SAMPLED	12-May-21
LAB SAMPLE No	98921	DATE RECEIVED	13-May-21
DATE TESTED	18-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried/Single Sample

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		9.6	1.761
2		11.8	1.776
3		13.9	1.796
4		15.6	1.740
5		16.4	1.703
	Optimum	14.0	
	Maximum		1.80
	Particle Density	2.60 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 7%

Percentage of material retained on 20mm sieve = 21%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

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MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 2.5 kg RAMMER

BS1377: PART 4: 1990

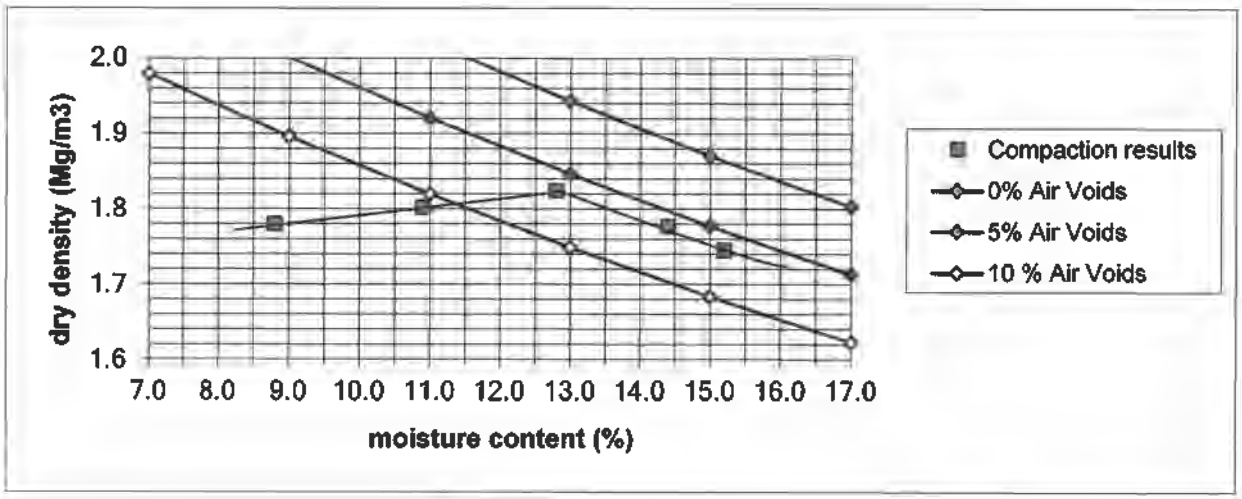
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/18

SAMPLE LABEL	BB10-GEO-002	DATE SAMPLED	12-May-21
LAB SAMPLE No	98922	DATE RECEIVED	13-May-21
DATE TESTED	18-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Site Won
PRE TREATMENT	Air Dried/Single Sample

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.8	1.780
2		10.9	1.802
3		12.8	1.824
4		14.4	1.777
5		15.2	1.745
	Optimum	13.0	
	Maximum		1.82
	Particle Density	2.60 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 5%

Percentage of material retained on 20mm sieve = 18%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1980

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

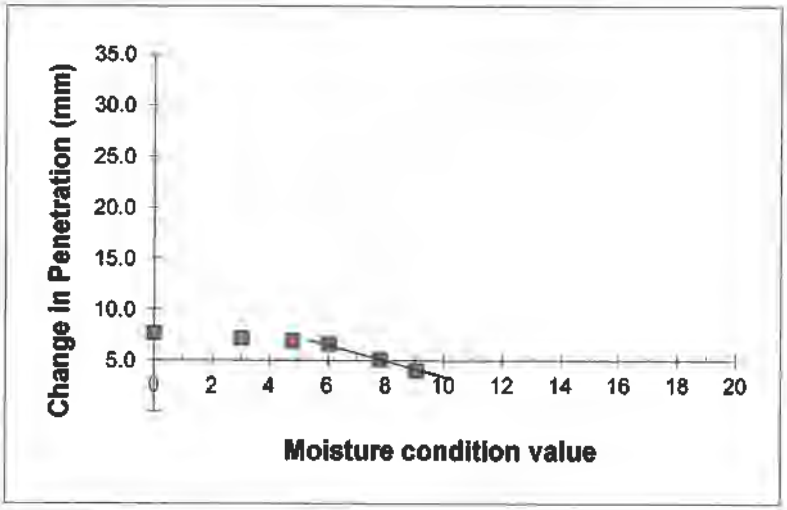
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/19

SAMPLE LABEL	BB10-GEO-002	DATE SAMPLED	12-May-21
LAB SAMPLE No	98922	DATE RECEIVED	13-May-21
DATE TESTED	24-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	18%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	77.3	7.7
2	73.3	7.2
3	71.2	6.9
4	69.6	6.6
6	67.6	5.1
8	66.1	4.0
12	64.3	
16	63.0	
24	62.5	
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 7.8
Moisture content = 17



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

MOISTURE CONTENT DETERMINATION
BS 1377 : PART 2 : 1990 (OVEN DRY)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/19

DATE SAMPLED	12 May 2021	SAMPLED BY	Client
DATE TESTED	17 May 2021	DATE RECEIVED	13 May 2021

Sample No	Site Reference	Material	Sample Location	Moisture Content %
98923	BB10-GEO-003	Granular Fill	Not advised	13
98924	BB10-GEO-004	Granular Fill	Not advised	16
98925	BB10-GEO-005	Granular Fill	Not advised	12

REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 27 May 2021

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1589

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

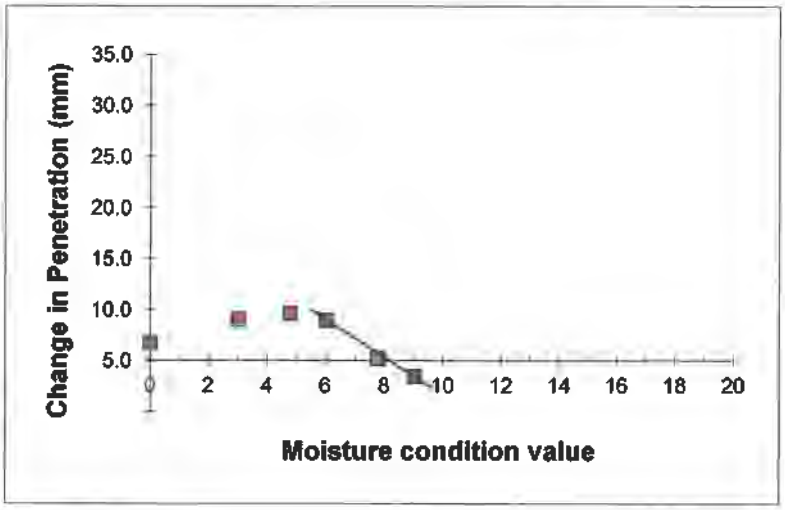
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/19

SAMPLE LABEL	BB10-GEO-005	DATE SAMPLED	12-May-21
LAB SAMPLE No	98925	DATE RECEIVED	13-May-21
DATE TESTED	24-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	25%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	78.4	6.7
2	74.2	9.0
3	73.8	9.6
4	71.7	8.9
6	67.3	5.2
8	65.2	3.4
12	64.2	
16	62.8	
24	62.1	
32	61.8	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.2
Moisture content = 15



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 27-May-21

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract Mayfield Depot

Job Number MRN 4098/27
Date of Issue 24 June 2021
Page **1 of 13**

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

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

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.

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

6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

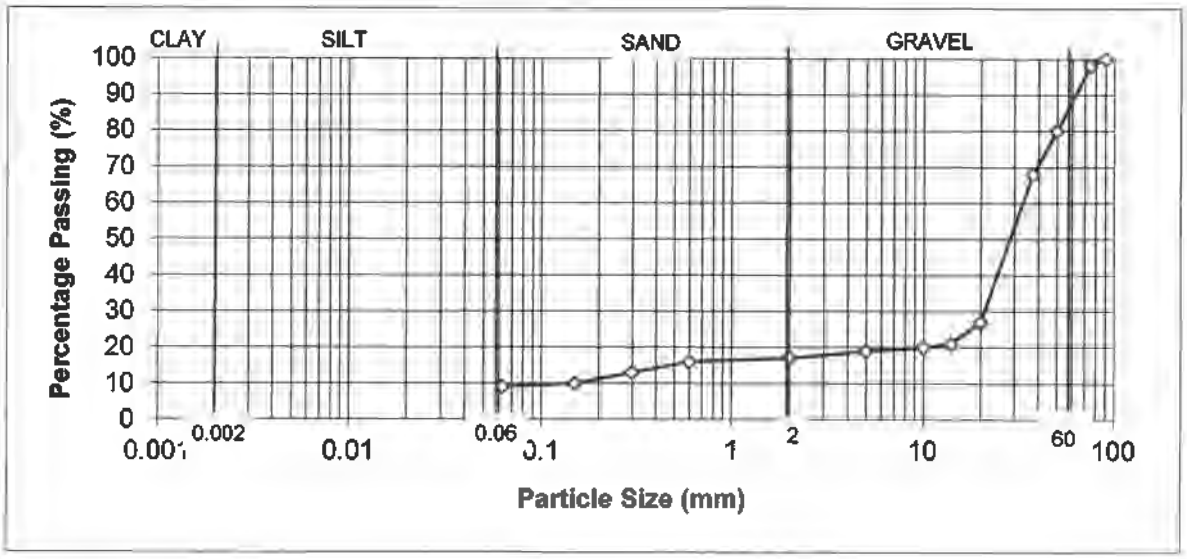
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-107-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99171	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	20	15-60
90	100	80-100	5	19	10-45
75	98	65-100	2	17	
50	80		0.6	16	0-25
37.5	68	45-100	0.3	13	
20	27		0.15	10	
14	21		0.063	9	0-12



REMARKS
Sample complies with the grading requirements for a 6F2 material (SHW 2016)
As received moisture content = 13%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1566

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

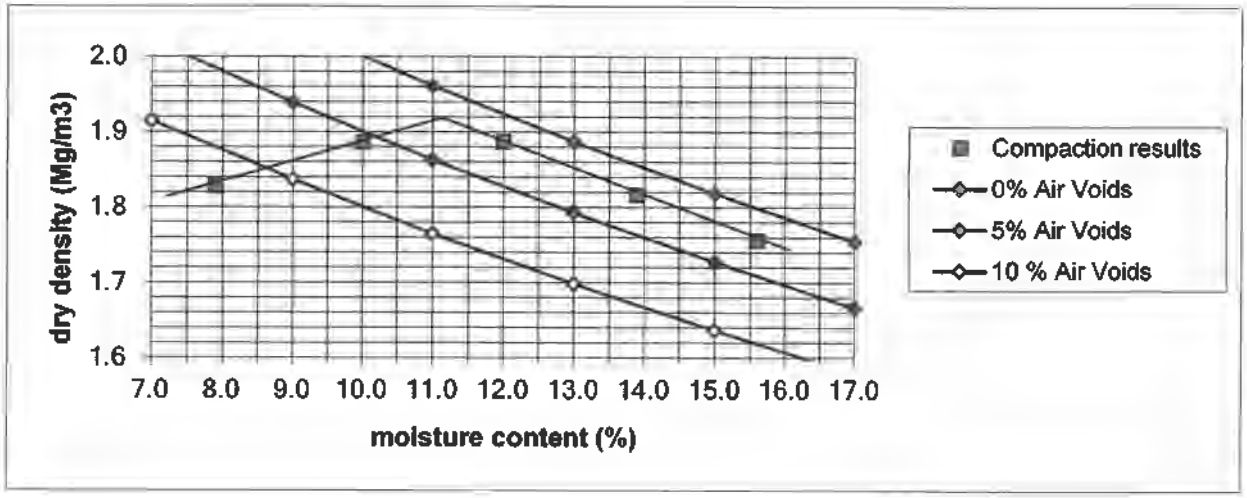
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LAB2BEL	Crush-107-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99171	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		7.9	1.828
2		10.0	1.886
3		12.0	1.887
4		13.9	1.816
5		15.6	1.756
	Optimum	11.0	
	Maximum		1.92
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 32%

Percentage of material retained on 20mm sieve = 73%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

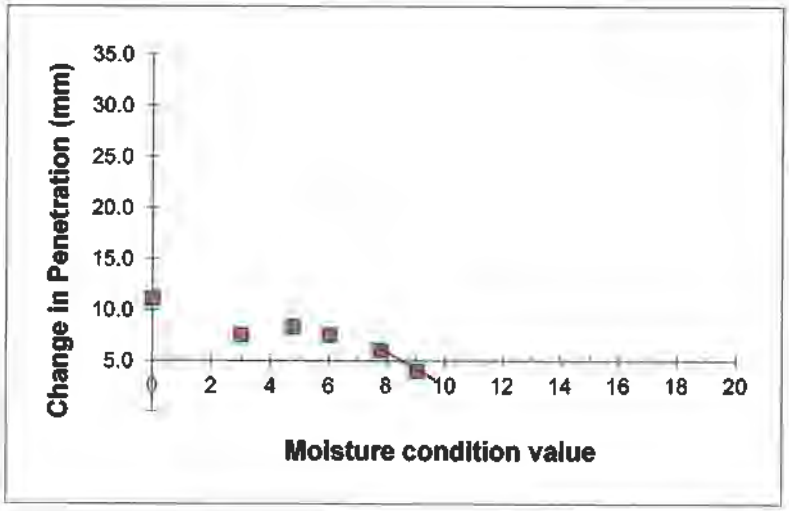
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-107-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99171	DATE RECEIVED	21-May-21
DATE TESTED	02-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	73%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	84.2	11.1
2	76.2	7.5
3	74.5	8.3
4	73.1	7.5
6	70.8	6.0
8	68.7	4.0
12	66.2	
16	65.6	
24	64.8	
32	64.7	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.5
Moisture content = 14



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
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UKAS TESTING
1680

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

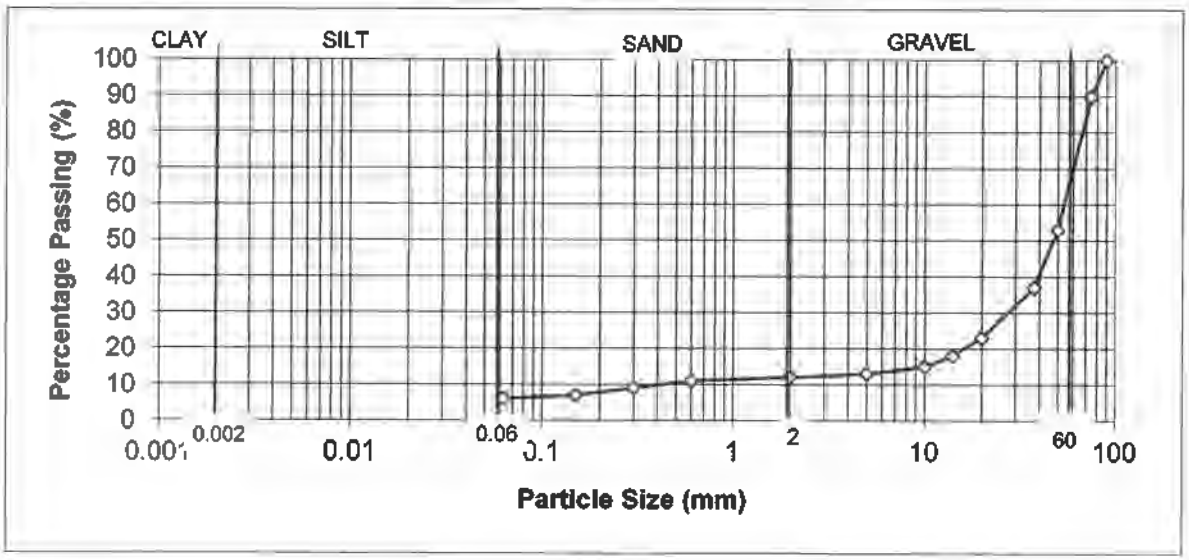
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-108-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99172	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	95-100	10	15	
90	100		5	13	
75	90		2	12	
50	53		0.6	11	
37.5	37		0.3	9	
20	23		0.15	7	
14	18		0.063	6	<15



REMARKS
Sample complies with the grading requirements for a 1A material (SHW 2016)
As received moisture content = 11%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

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MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

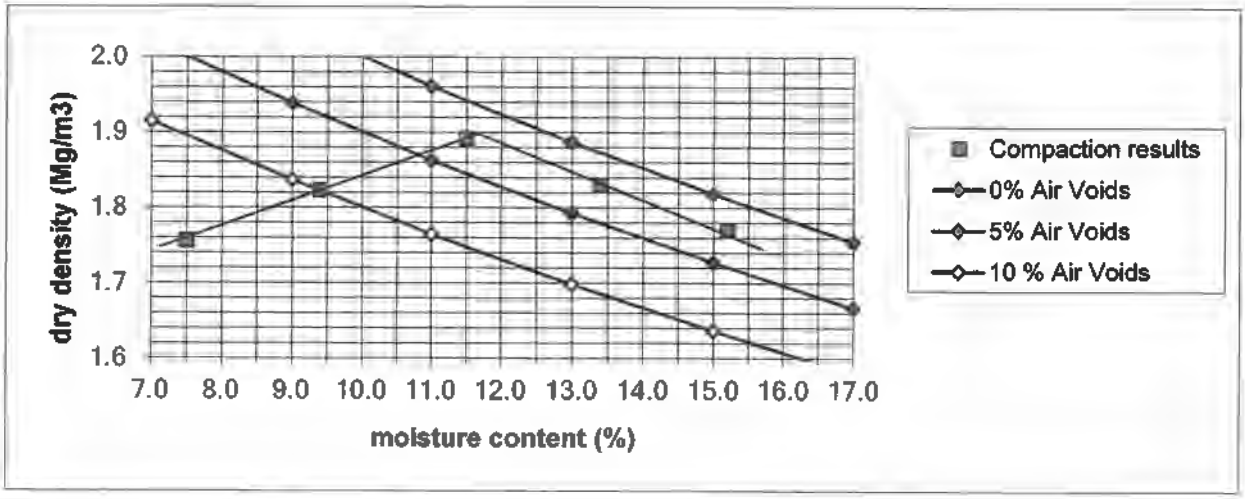
DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER
BS1377: PART 4: 1990
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LAB2BEL	Crush-108-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99172	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		7.5	1.756
2		9.4	1.823
3		11.5	1.892
4		13.4	1.83
5		15.2	1.77
	Optimum	12.0	
	Maximum		1.90
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES
Percentage of material retained on 37.5mm sieve = 63%
Percentage of material retained on 20mm sieve = 77%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
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TEL 0161 475 0870

UKAS TESTING 1560

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

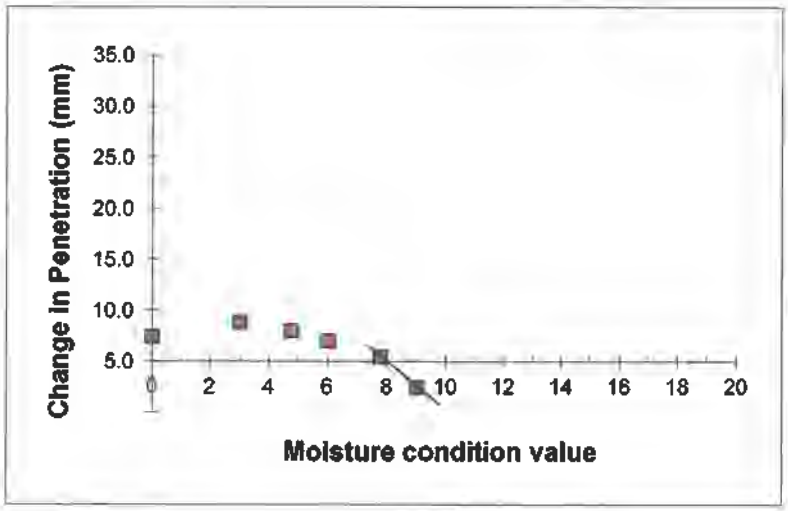
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-108-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99172	DATE RECEIVED	21-May-21
DATE TESTED	02-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	77%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	79.3	7.4
2	75.4	8.8
3	73.4	8.0
4	71.9	7.0
6	69.7	5.4
8	66.6	2.4
12	65.4	
16	64.9	
24	64.3	
32	64.2	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.0
Moisture content = 14



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

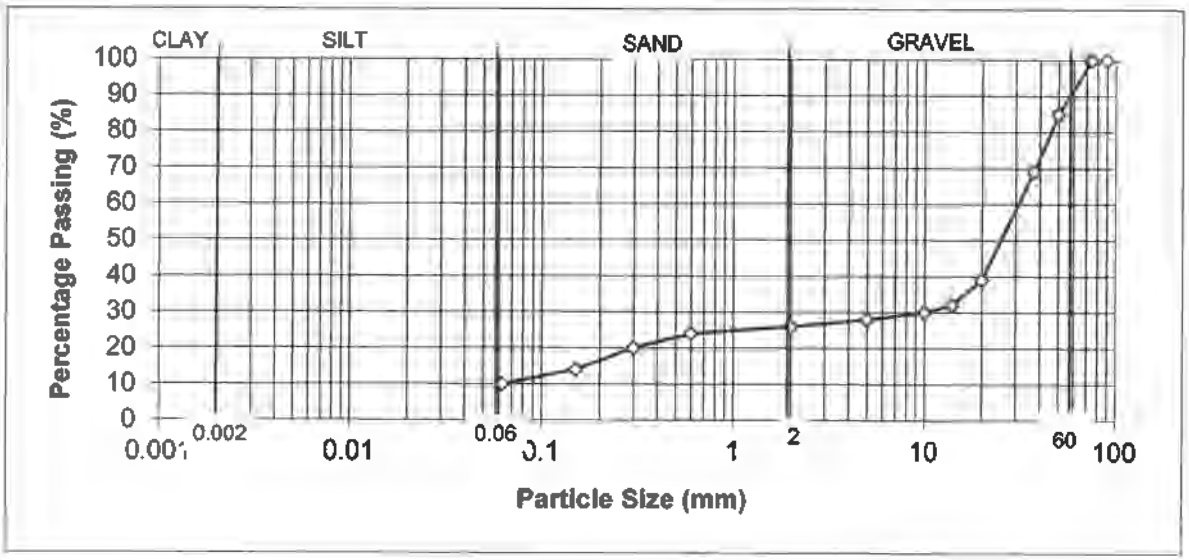
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-109-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99173	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	30	15-60
90	100	80-100	5	28	10-45
75	100	65-100	2	26	
50	85		0.6	24	0-25
37.5	69	45-100	0.3	20	
20	39		0.15	14	
14	32		0.063	10	0-12



REMARKS

Sample complies with the grading requirements for a 6F2 material (SHW 2016)

As received moisture content = 13%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

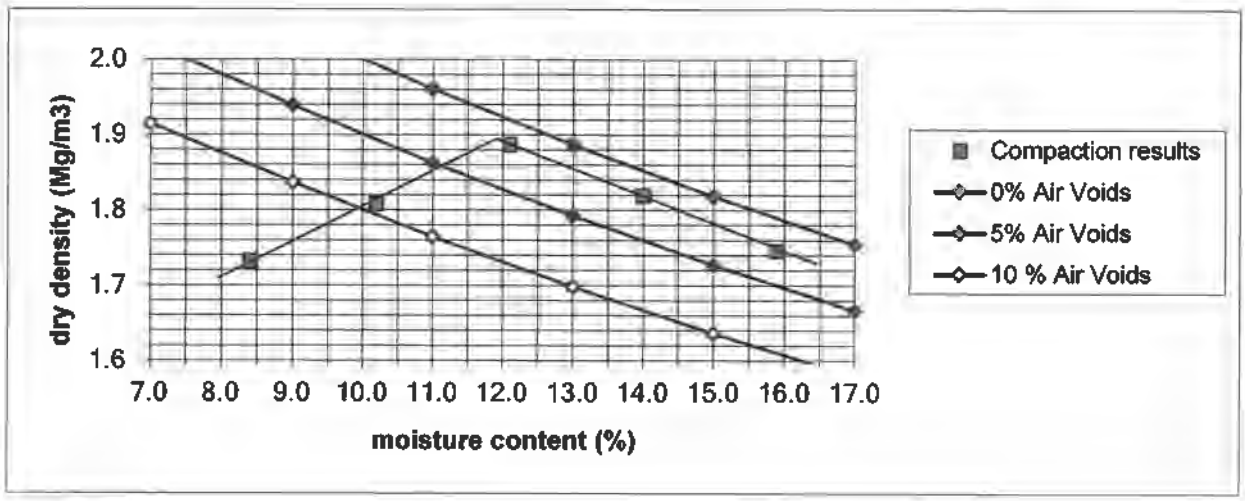
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LAB2BEL	Crush-109-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99173	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.4	1.732
2		10.2	1.808
3		12.1	1.887
4		14.0	1.819
5		15.9	1.746
	Optimum	12.0	
	Maximum		1.89
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 31%

Percentage of material retained on 20mm sieve = 61%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
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TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

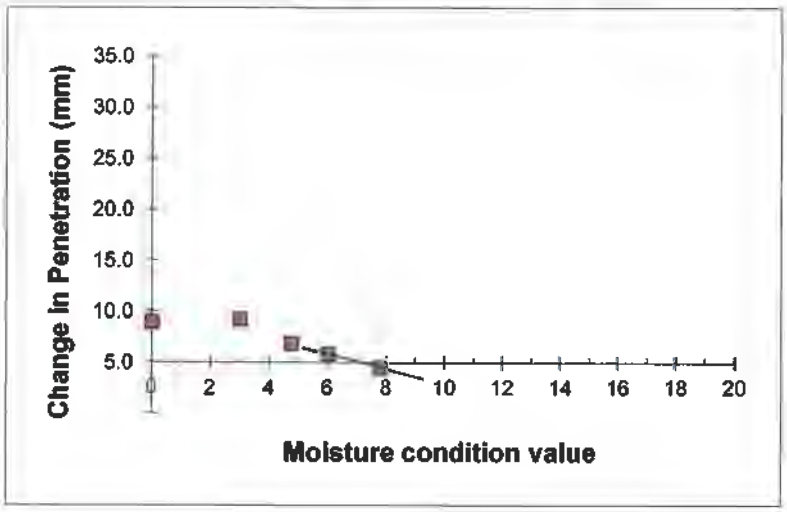
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-109-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99173	DATE RECEIVED	21-May-21
DATE TESTED	02-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	61%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	85.4	8.9
2	82.1	9.2
3	78.6	6.8
4	76.5	5.8
6	74.8	4.4
8	72.9	
12	71.8	
16	70.7	
24	70.4	
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 7.0
Moisture content = 15



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

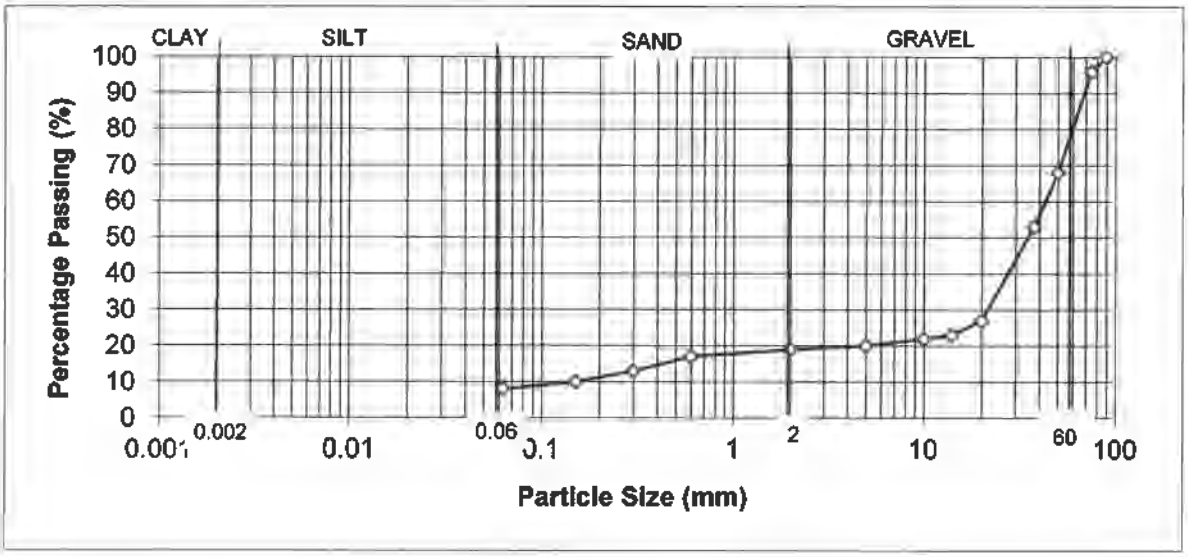
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-110-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99174	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	22	15-60
90	100	80-100	5	20	10-45
75	96	65-100	2	19	
50	68		0.6	17	0-25
37.5	53	45-100	0.3	13	
20	27		0.15	10	
14	23		0.063	8	0-12



REMARKS
Sample complies with the grading requirements for a 6F2 material (SHW 2016)
As received moisture content = 13%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

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MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1560

TEST CERTIFICATE

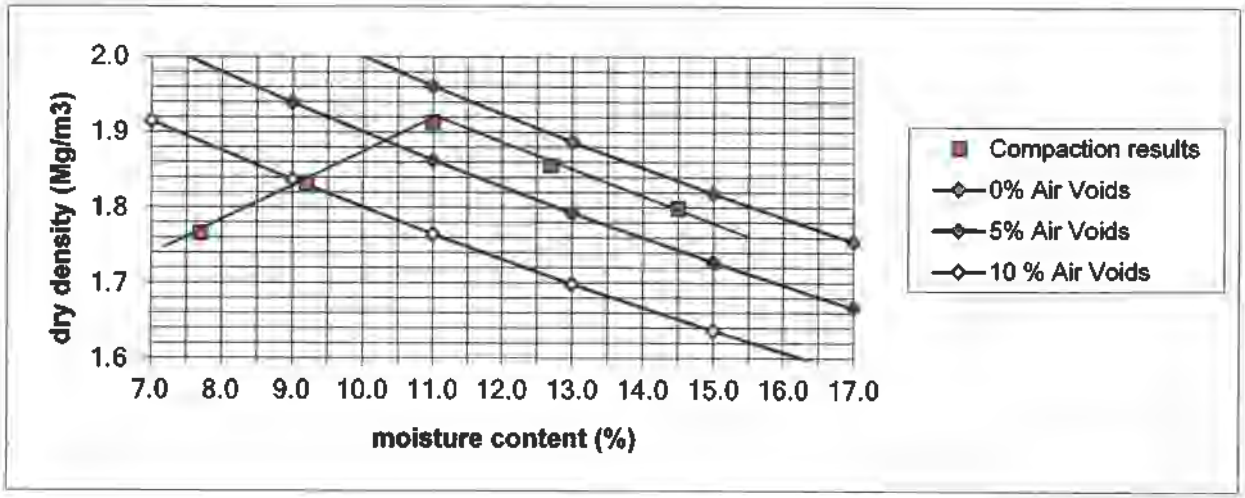
DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER
BS1377: PART 4: 1990
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LAB2BEL	Crush-110-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99174	DATE RECEIVED	21-May-21
DATE TESTED	28-May-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		7.7	1.766
2		9.2	1.832
3		11.0	1.913
4		12.7	1.856
5		14.5	1.799
	Optimum	11.0	
	Maximum		1.92
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES
Percentage of material retained on 37.5mm sieve = 7%
Percentage of material retained on 20mm sieve = 73%

SIGNED

NAME D.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

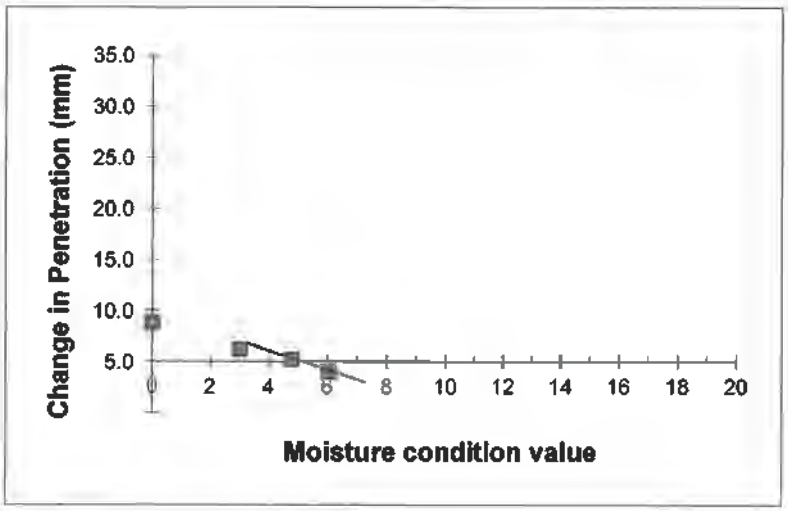
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/27

SAMPLE LABEL	Crush-110-NG	DATE SAMPLED	21-May-21
LAB SAMPLE No	99174	DATE RECEIVED	21-May-21
DATE TESTED	02-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	73%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	81.6	8.8
2	76.6	6.2
3	74.6	5.2
4	72.8	4.0
6	71.0	
8	70.4	
12	69.4	
16	68.8	
24		
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 5.0
Moisture content = 15



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client e3p

Address Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contract Mayfield Depot

Job Number MRN 4098/28
Date of Issue 24 June 2021
Page **1 of 13**

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

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

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.

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

6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

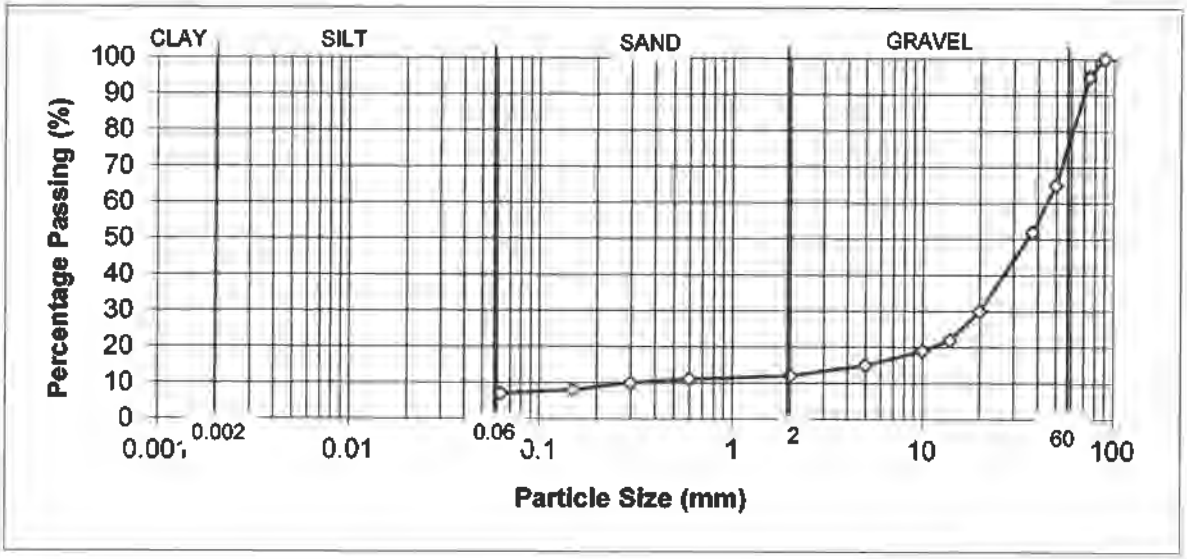
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-111-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100012	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	19	15-60
90	100	80-100	5	15	10-45
75	95	65-100	2	12	
50	65		0.6	11	0-25
37.5	52	45-100	0.3	10	
20	30		0.15	8	
14	22		0.063	7	0-12



REMARKS

Sample complies with the grading requirements for a 6F2 material (SHW 2016)

As received moisture content = 11%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

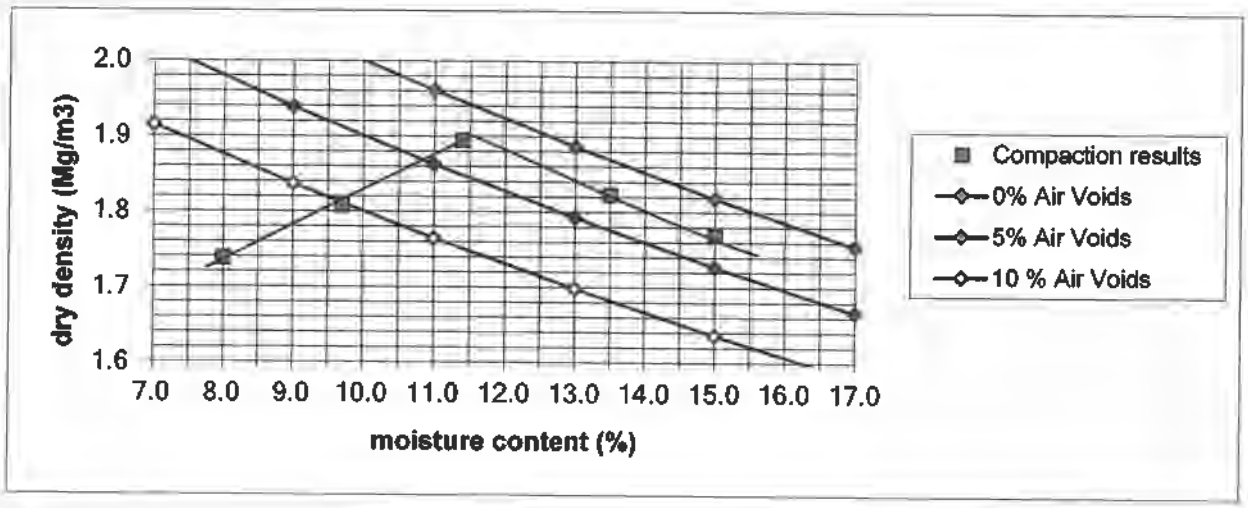
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LAB2BEL	Crush-111-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100012	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.0	1.738
2		9.7	1.808
3		11.4	1.895
4		13.5	1.823
5		15.0	1.769
	Optimum	12.0	
	Maximum		1.90
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 48%

Percentage of material retained on 20mm sieve = 70%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1869

TEST CERTIFICATE

MOISTURE CONDITION VALUE

BS 1377: PART 4: Clause 5.4: 1990

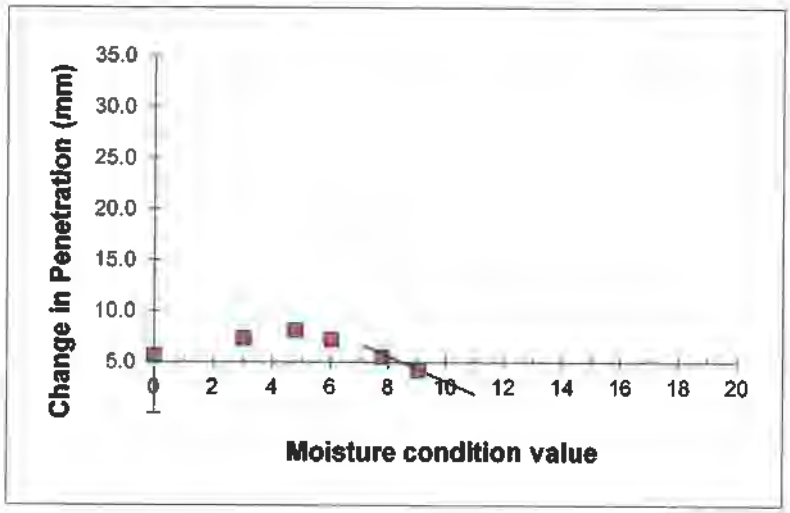
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-111-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100012	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	70%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	76.6	5.6
2	74.2	7.3
3	72.8	8.1
4	71.0	7.2
6	68.7	5.5
8	66.9	4.2
12	64.7	
16	63.8	
24	63.2	
32	62.7	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.3
Moisture content = 14



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

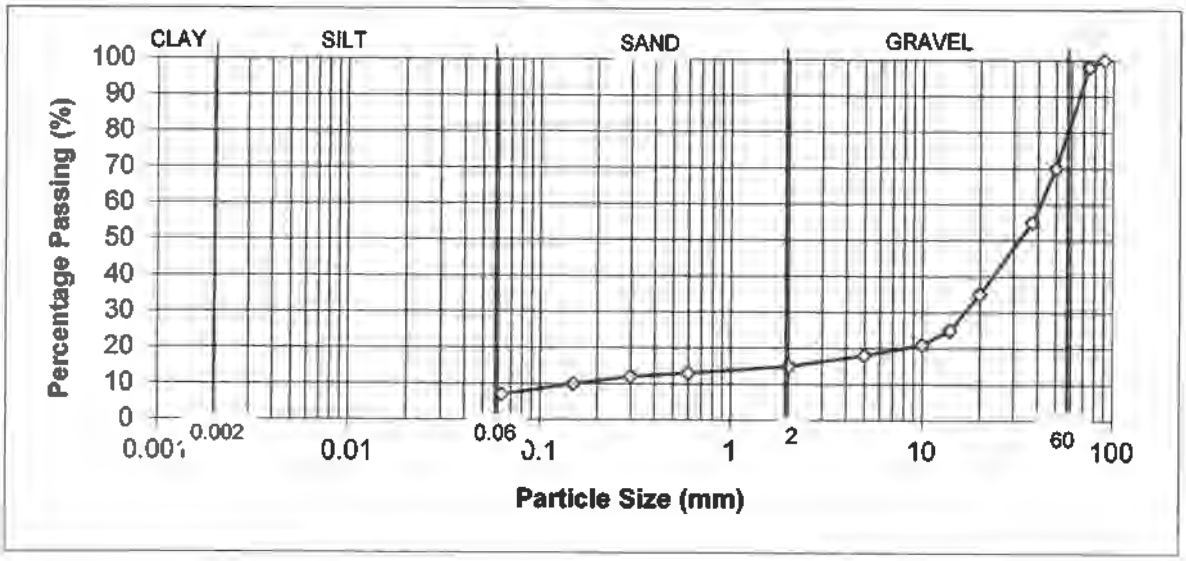
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-112-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100013	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	21	15-60
90	100	80-100	5	18	10-45
75	98	65-100	2	15	
50	70		0.6	13	0-25
37.5	55	45-100	0.3	12	
20	35		0.15	10	
14	25		0.063	7	0-12



REMARKS

Sample complies with the grading requirements for a 6F2 material (SHW 2016)

As received moisture content = 9.5%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

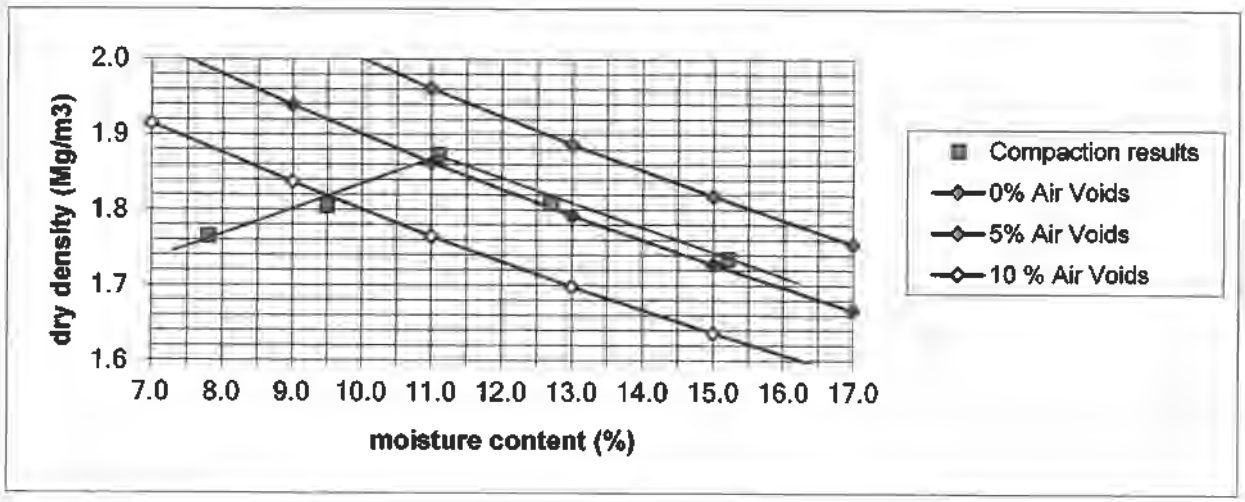
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LAB2BEL	Crush-112-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100013	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		7.8	1.765
2		9.5	1.805
3		11.1	1.873
4		12.7	1.809
5		15.2	1.735
	Optimum	11.0	
	Maximum		1.87
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 45%

Percentage of material retained on 20mm sieve = 65%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

MOISTURE CONDITION VALUE

BS 1377: PART 4: Clause 5.4: 1990

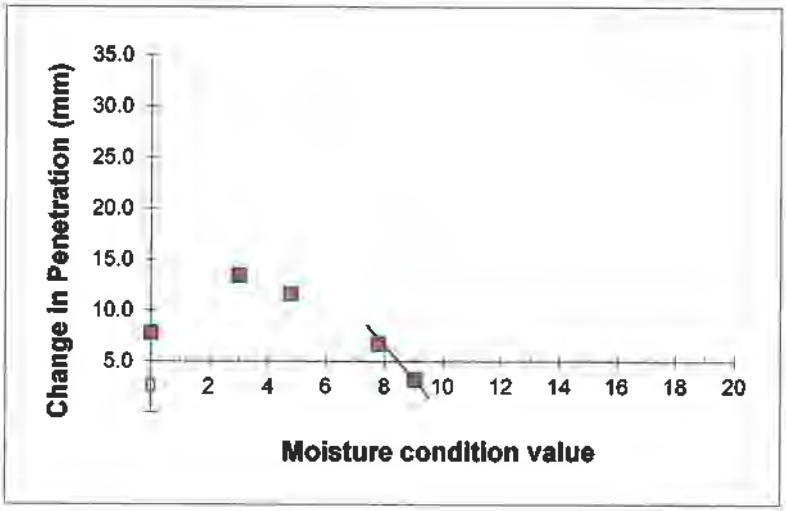
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-112-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100013	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	65%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	79.6	7.8
2	77.2	13.4
3	74.3	11.6
4	71.8	70.0
6	67.6	6.7
8	63.8	3.2
12	62.7	
16	61.8	
24	60.9	
32	60.6	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.4
Moisture content = 14



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING
1560

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

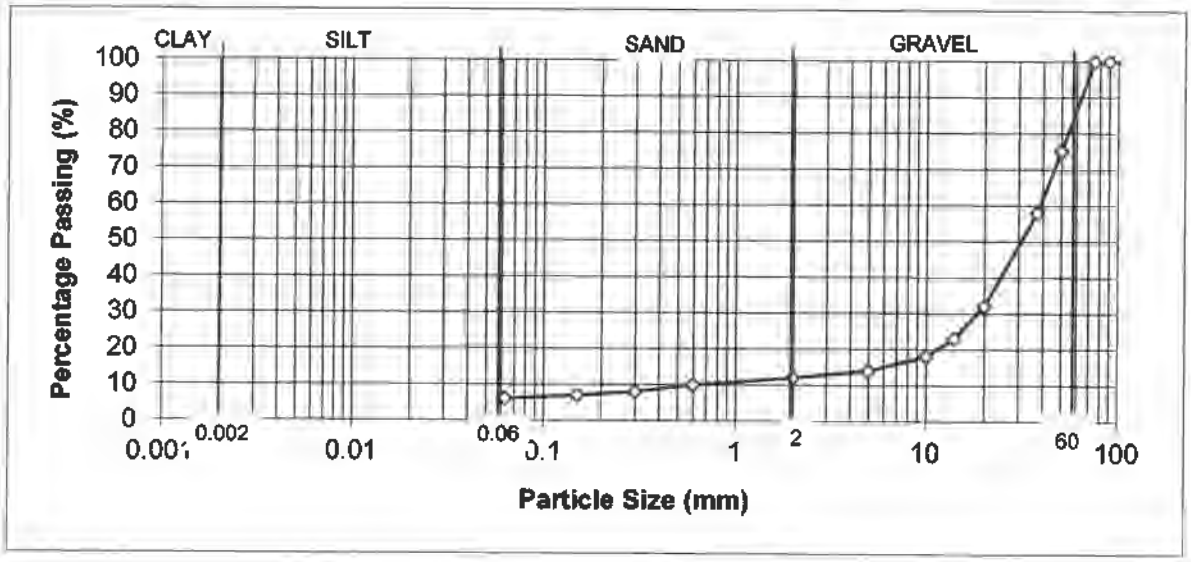
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-113-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100014	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	18	15-60
90	100	80-100	5	14	10-45
75	100	65-100	2	12	
50	75		0.6	10	0-25
37.5	58	45-100	0.3	8	
20	32		0.15	7	
14	23		0.063	6	0-12



REMARKS
Sample complies with the grading requirements for a 6F2 material (SHW 2016)
As received moisture content = 10%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,

DUKINFIELD, CHESHIRE SK16 4QX

TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER

BS1377: PART 4: 1990

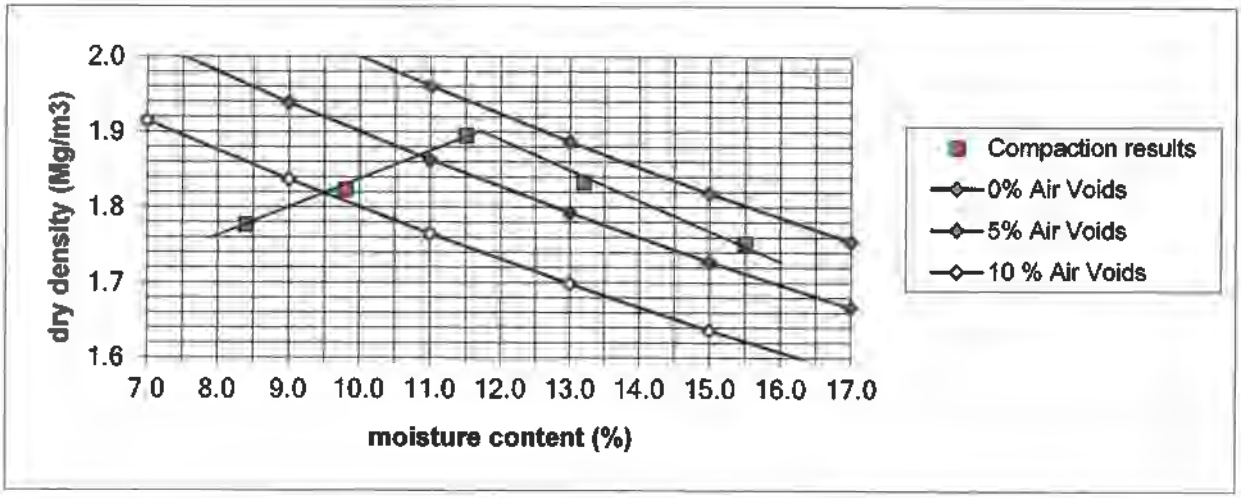
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LAB2BEL	Crush-113-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100014	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.4	1.777
2		9.8	1.823
3		11.5	1.895
4		13.2	1.833
5		15.5	1.752
	Optimum	12.0	
	Maximum		1.90
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES

Percentage of material retained on 37.5mm sieve = 42%

Percentage of material retained on 20mm sieve = 68%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

MOISTURE CONDITION VALUE

BS 1377: PART 4: Clause 5.4: 1990

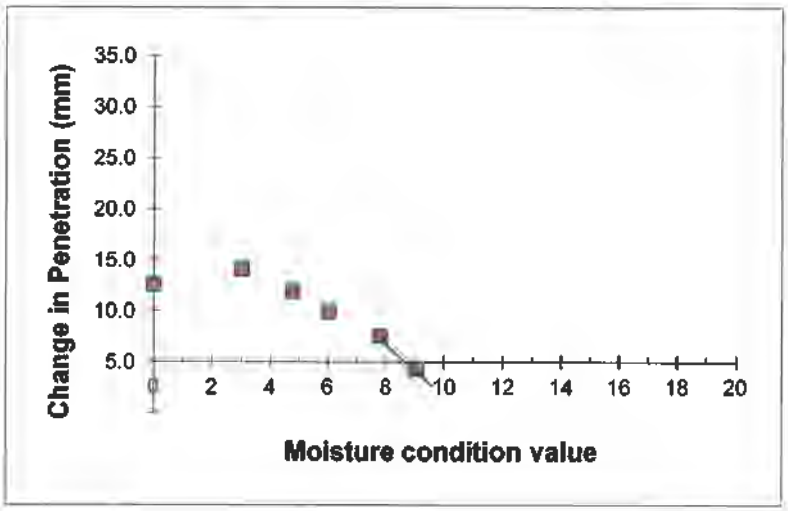
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-113-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100014	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	68%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	82.4	12.6
2	76.9	14.1
3	72.9	11.9
4	69.8	9.9
6	66.2	7.5
8	62.8	4.3
12	61.0	
16	59.9	
24	58.7	
32	58.5	
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 8.6
Moisture content = 14



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.2: 1990

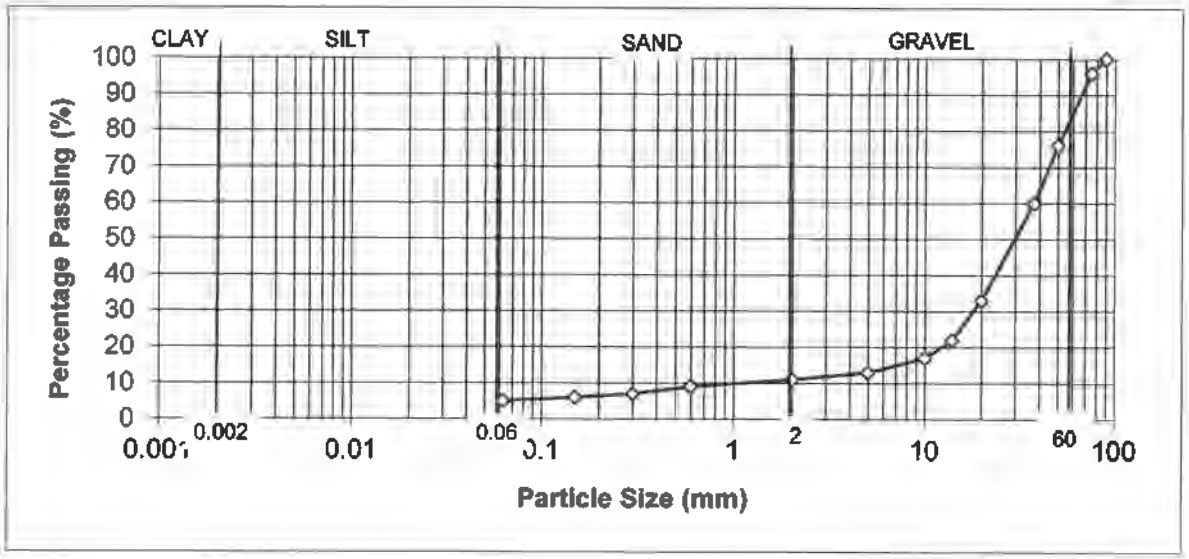
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-114-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100015	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100	100	10	17	15-60
90	100	80-100	5	13	10-45
75	96	65-100	2	11	
50	76		0.6	9	0-25
37.5	60	45-100	0.3	7	
20	33		0.15	6	
14	22		0.063	5	0-12



REMARKS

Sample complies with the grading requirements for a 6F2 material (SHW 2016)

As received moisture content = 11%, Uniformity coefficient = >10

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

form omcram

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

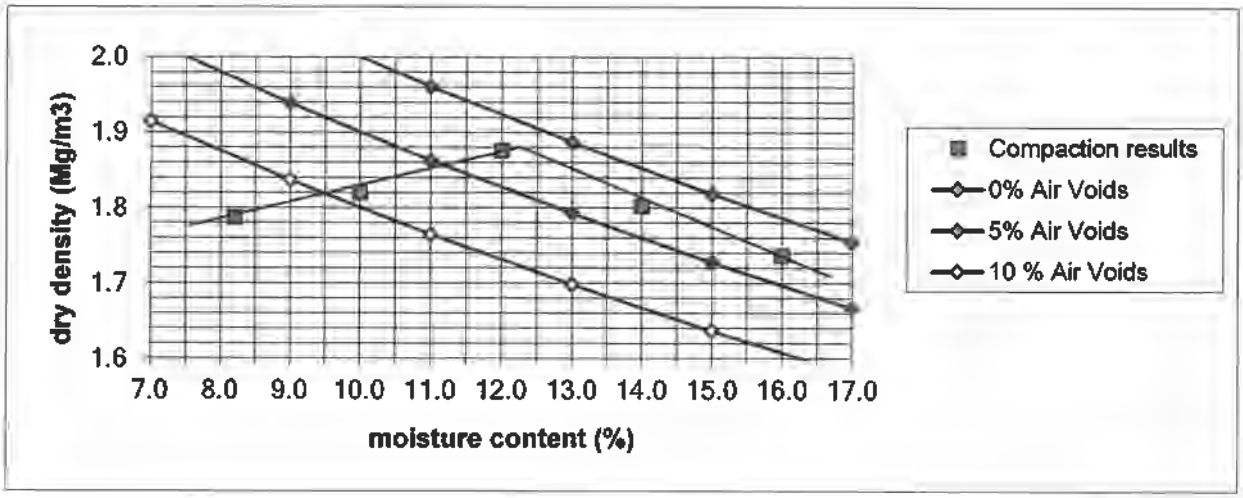
DRY DENSITY/MOISTURE CONTENT RELATIONSHIP 4.5 kg RAMMER
BS1377: PART 4: 1990
PARTICLE DENSITY METHOD BS 1377: PART 2: 1990 Clause 8.2

CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LAB2BEL	Crush-114-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100015	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PRE TREATMENT	Air Dried/Separate Batches

Point Number		Moisture Content (%)	Dry Density (Mg/m3)
1		8.2	1.787
2		10.0	1.820
3		12.0	1.876
4		14.0	1.802
5		16.0	1.736
	Optimum	12.0	
	Maximum		1.88
	Particle Density	2.5 (Assumed)	



REMARKS/ABNORMALITIES
Percentage of material retained on 37.5mm sieve = 40%
Percentage of material retained on 20mm sieve = 67%

SIGNED

NAME D.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1680

TEST CERTIFICATE

MOISTURE CONDITION VALUE
BS 1377: PART 4: Clause 5.4: 1990

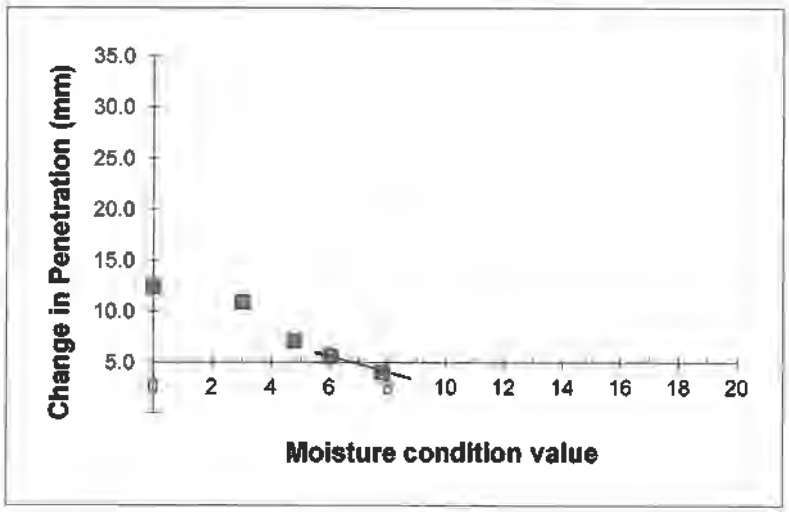
CLIENT	e3p
SITE	Mayfield Depot
JOB NUMBER	MRN 4098/28

SAMPLE LABEL	Crush-114-NG	DATE SAMPLED	09-Jun-21
LAB SAMPLE No	100015	DATE RECEIVED	09-Jun-21
DATE TESTED	14-Jun-21	SAMPLED BY	Client

MATERIAL	Granular Fill
ADVISED SOURCE	Not advised
PROPORTION LARGER THAN 20 mm	67%
INTERPRETATION OF TEST CURVE	Straight line passing through 5mm

Total number of blows n	Penetration (mm)	Change in penetration n to 4n (mm)
1	86.7	12.4
2	81.8	10.9
3	76.9	7.1
4	74.3	5.6
6	72.7	4.0
8	70.9	
12	69.8	
16	68.7	
24	68.7	
32		
48		
64		
96		
128		
192		
256		

Moisture Condition Value = 6.7
Moisture content = 15



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 24-Jun-21

LABORATORY REPORT

4043

Contract Number: PSL21/1404

Report Date: 04 March 2021

Client's Reference: 14-575

Client Name: E3P
Taylor Road
Urmston
Manchester
M41 7JQ

For the attention of: Rob Horseman

Contract Title: Mayfield Depot

Date Received: 16/2/2021
Date Commenced: 16/2/2021
Date Completed: 4/3/2021

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)	R Berriman (Quality Manager)	S Royle (Laboratory Manager)
L Knight (Senior Technician)	S Eyre (Senior Technician)	T Watkins (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
Crush 101		Bulk			Class 1A.
Crush 102		Bulk			Class 1A.

UKAS TESTING 4043	PSL Professional Soils Laboratory	Mayfield Depot	Contract No: PSL21/1404 Client Ref: 14-575

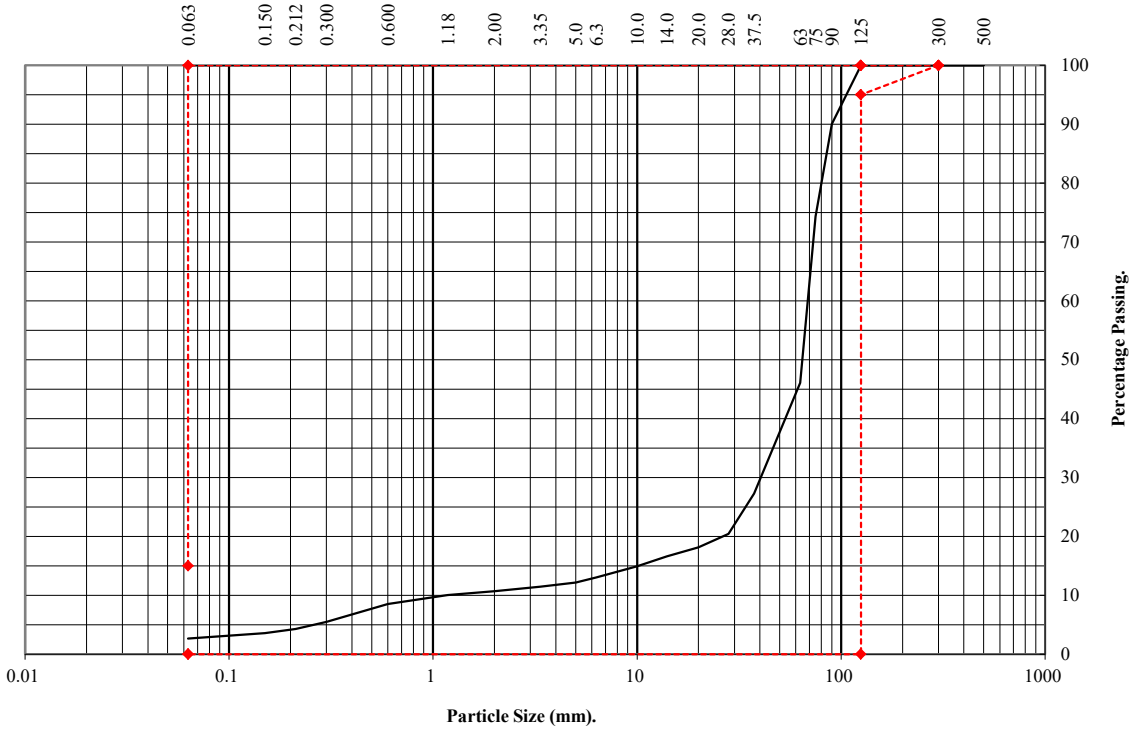
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990

Wet Sieve: Clause 9.2

Classification for Acceptable Earthworks Materials

Sample Number: **Crush 101** **Classification Type:** **1A**



BS Test Sieve mm	Percentage Passing %	Table 6/2 Grading Requirements Lower	Upper
500	100		
300	100	100	100
125	100	95	100
90	90		
75	74		
63	46		
37.5	27		
28	20		
20	18		
14	17		
10	15		
6.3	13		
5	12		
3.35	11		
2	11		
1.18	10		
0.6	9		
0.3	6		
0.212	4		
0.15	4		
0.063	3	0	15

Remarks:
SHW Series 600 Table 6/2 :
Class 1A

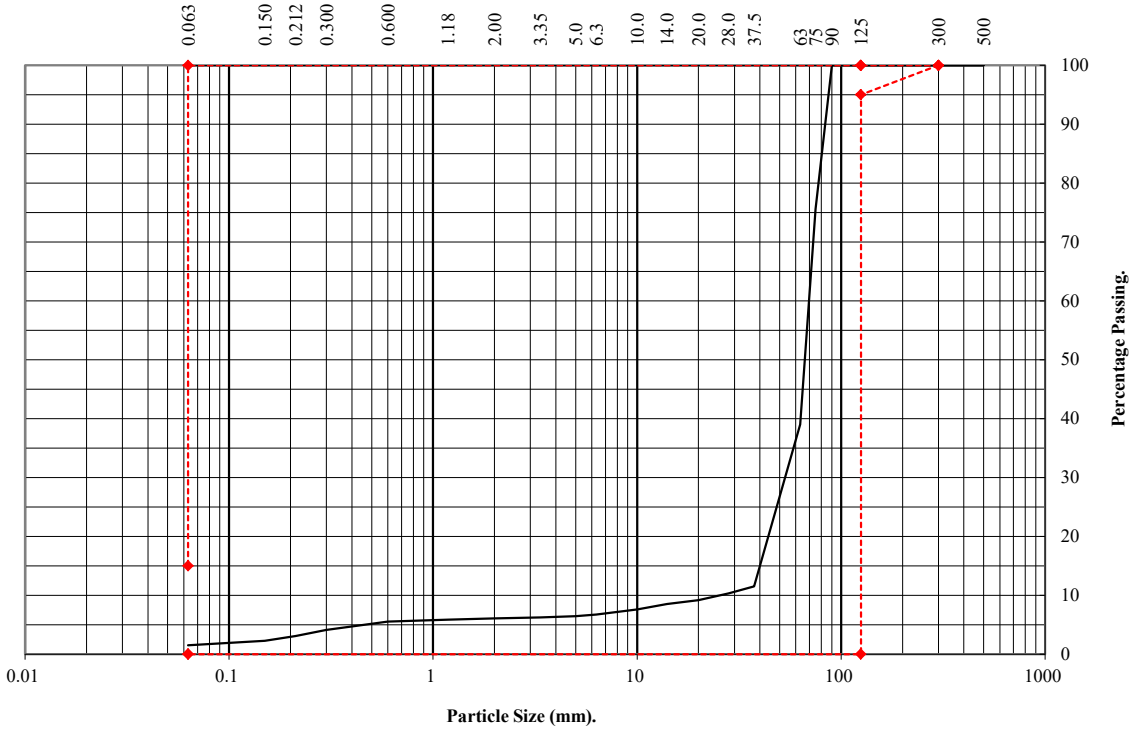
PARTICLE SIZE DISTRIBUTION TEST

BS1377:Part 2:1990

Wet Sieve: Clause 9.2

Classification for Acceptable Earthworks Materials

Sample Number: **Crush 102** **Classification Type:** **1A**



BS Test Sieve mm	Percentage Passing %	Table 6/2 Grading Requirements Lower	Upper
500	100		
300	100	100	100
125	100	95	100
90	100		
75	76		
63	39		
37.5	12		
28	10		
20	9		
14	9		
10	8		
6.3	7		
5	6		
3.35	6		
2	6		
1.18	6		
0.6	6		
0.3	4		
0.212	3		
0.15	2		
0.063	1	0	15

Remarks:
SHW Series 600 Table 6/2 :
Class 1A

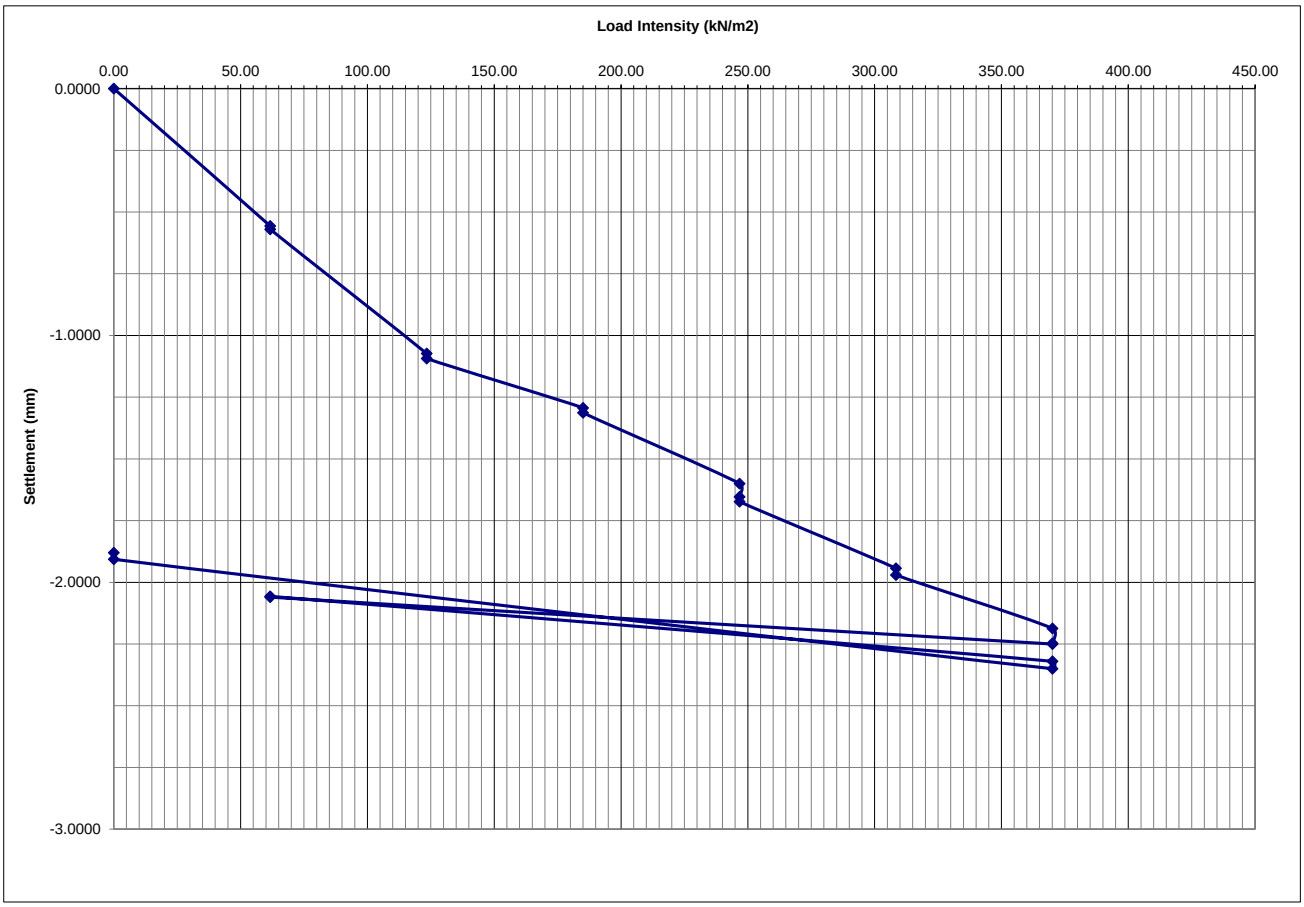
UKAS TESTING 4043	PSL Professional Soils Laboratory	**Mayfield Depot**	**Contract No.:** PSL21/1404
			Client Ref: 14-575

APPENDIX VIII
CBR GEOTECHNICAL TESTING RESULTS

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR113	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-2.35	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 22%

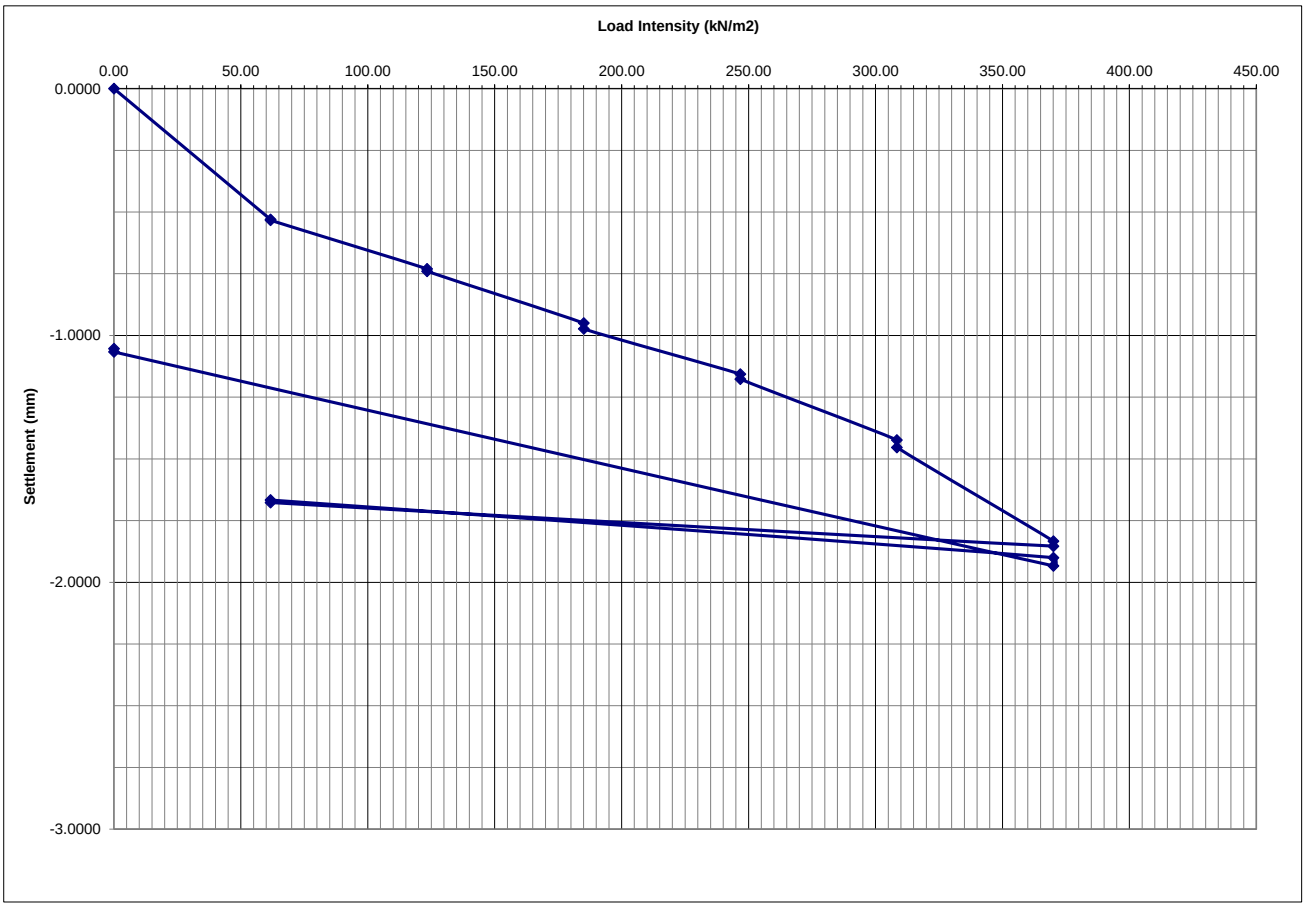
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR114	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.93	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 48%

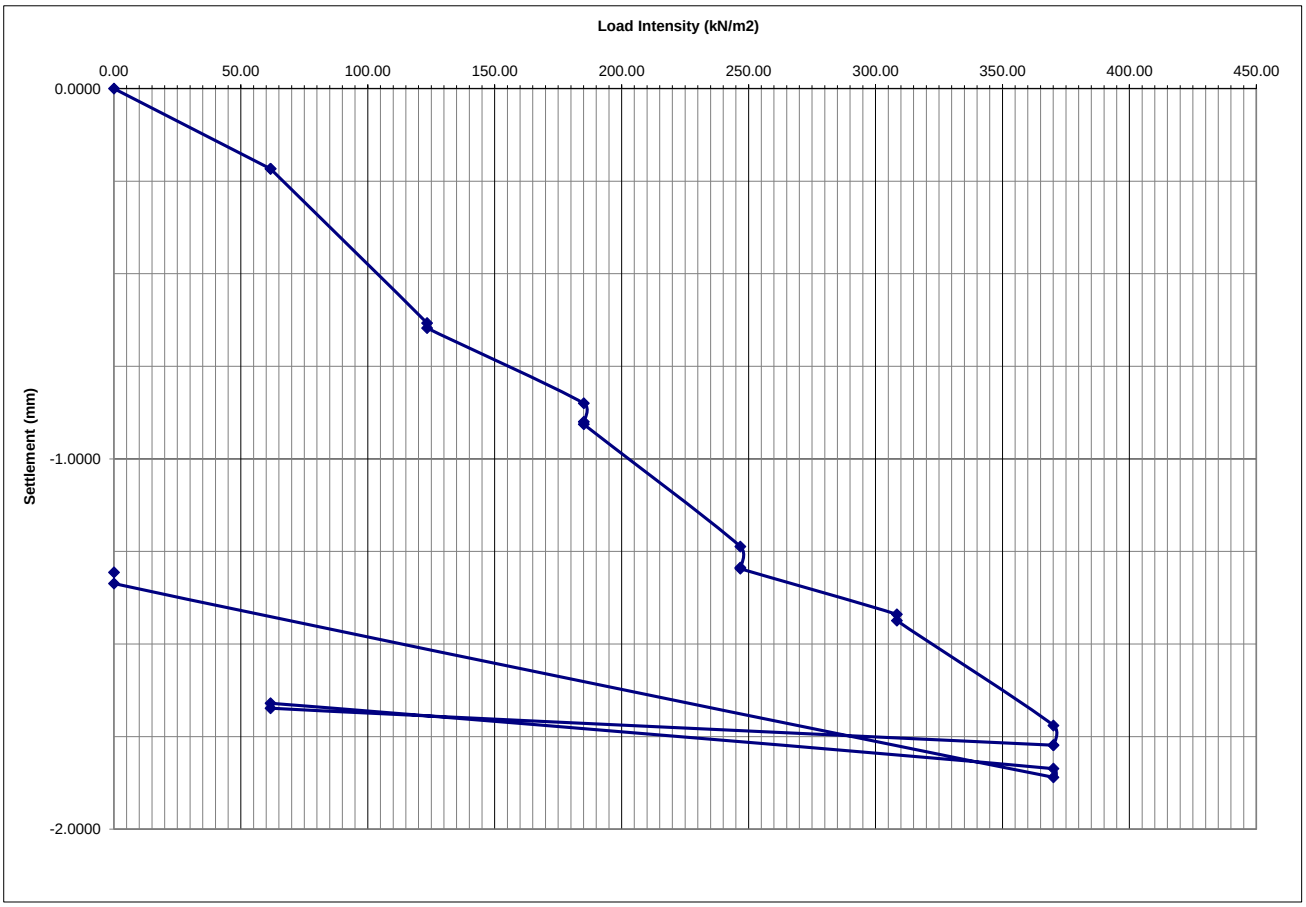
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR115	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.86	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 42%

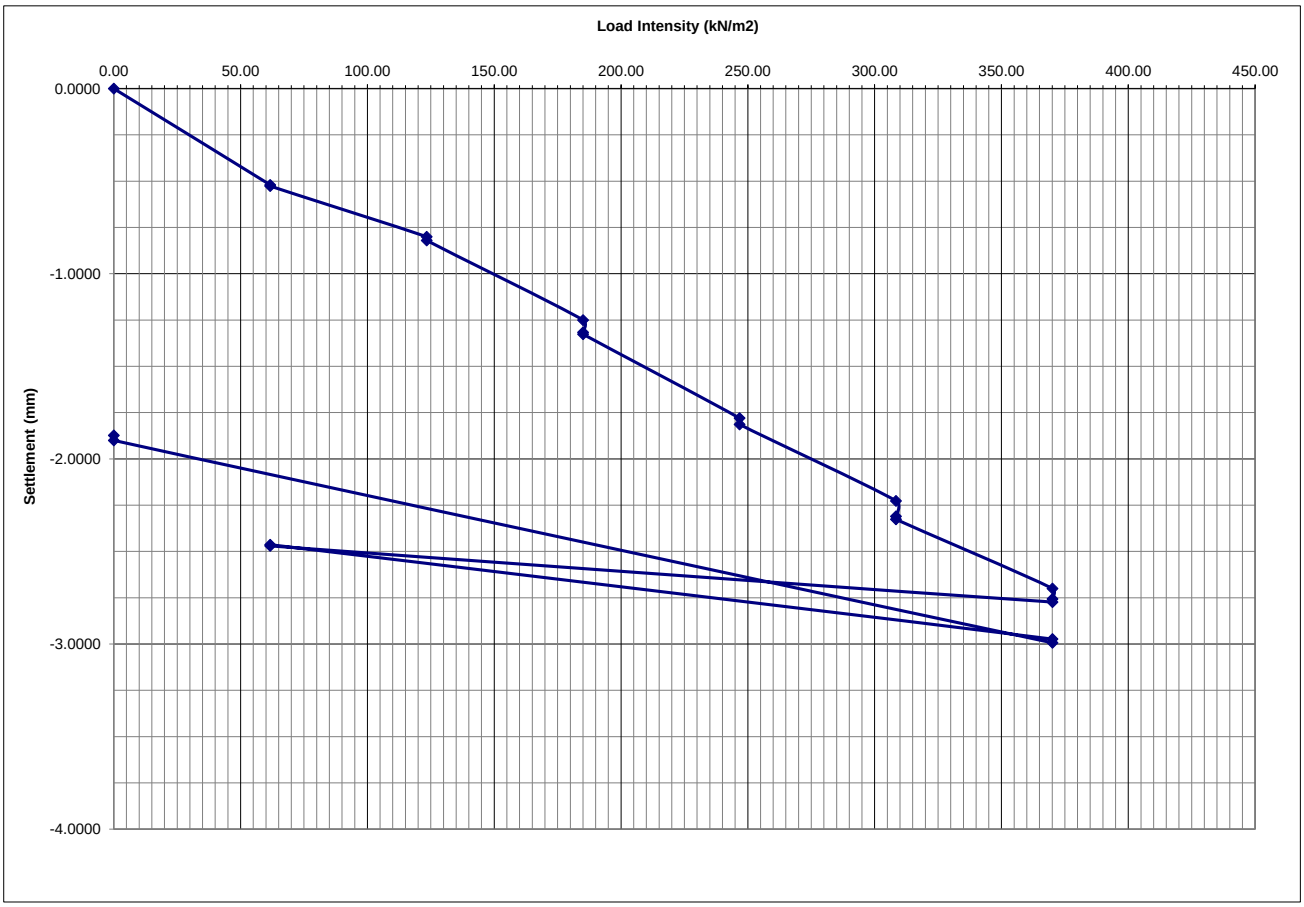
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR116	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-2.99	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 26%

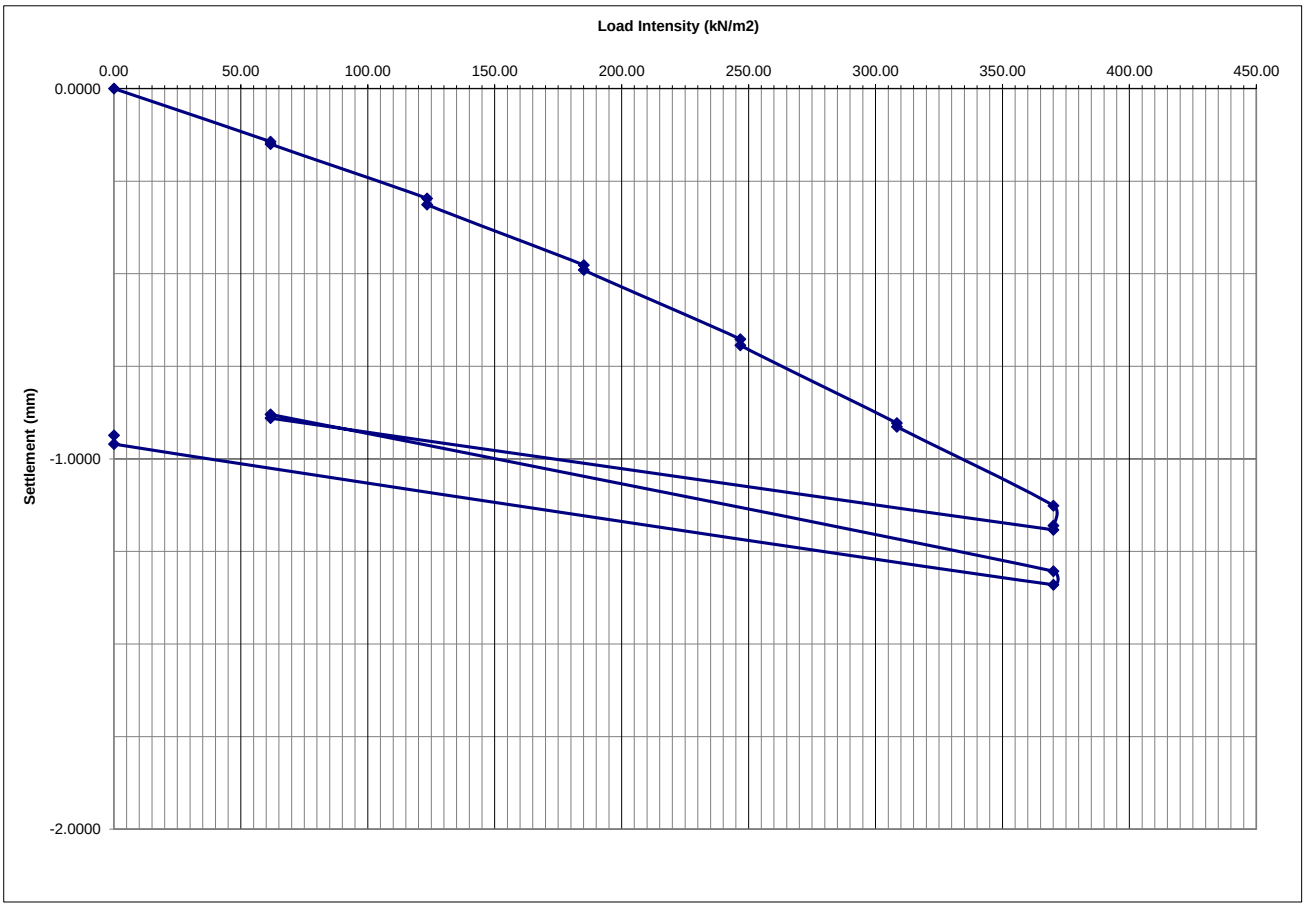
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR117	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.34	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value in Excess of 85%

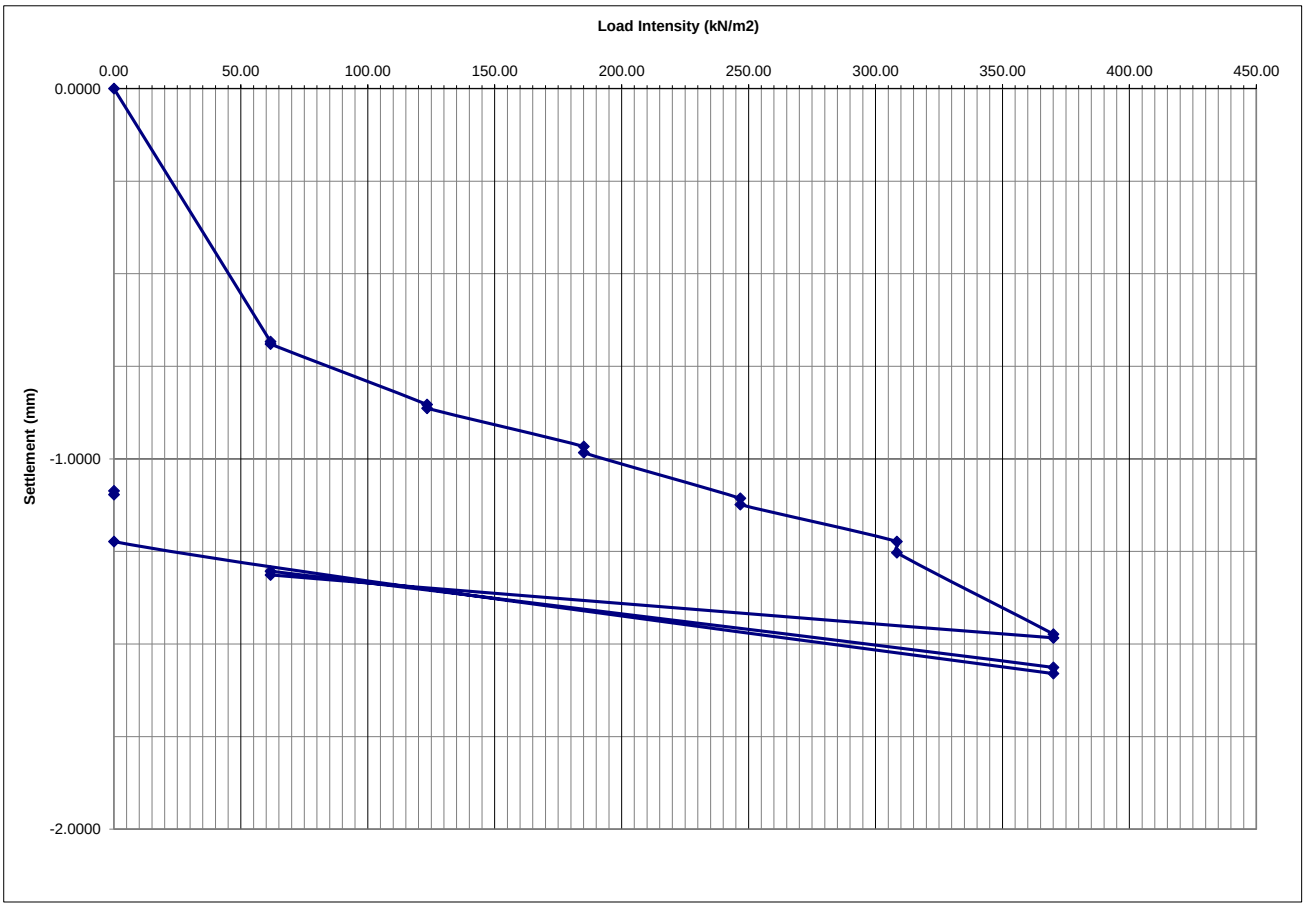
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR119	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.58	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 63%

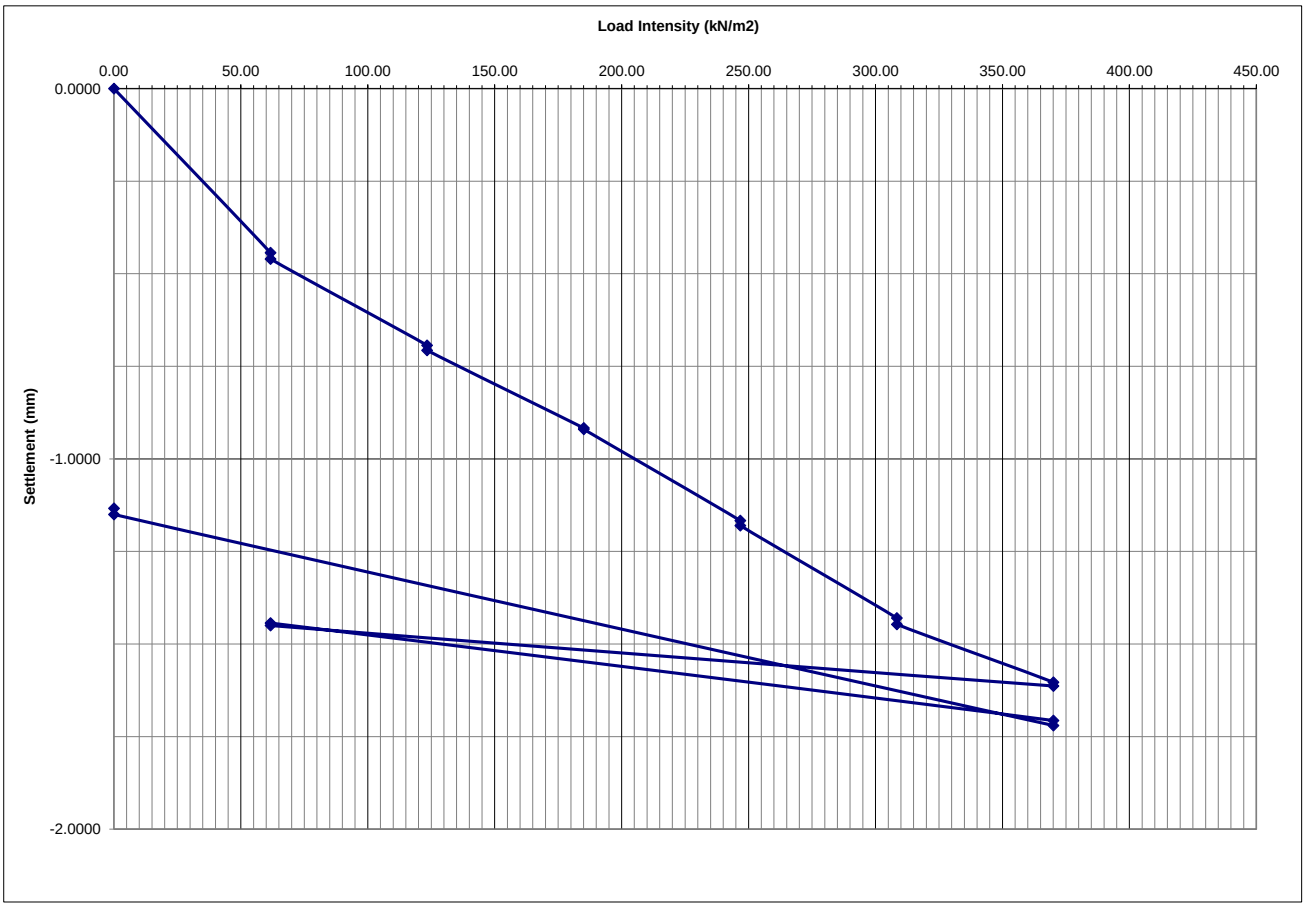
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR120	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.72	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 47%

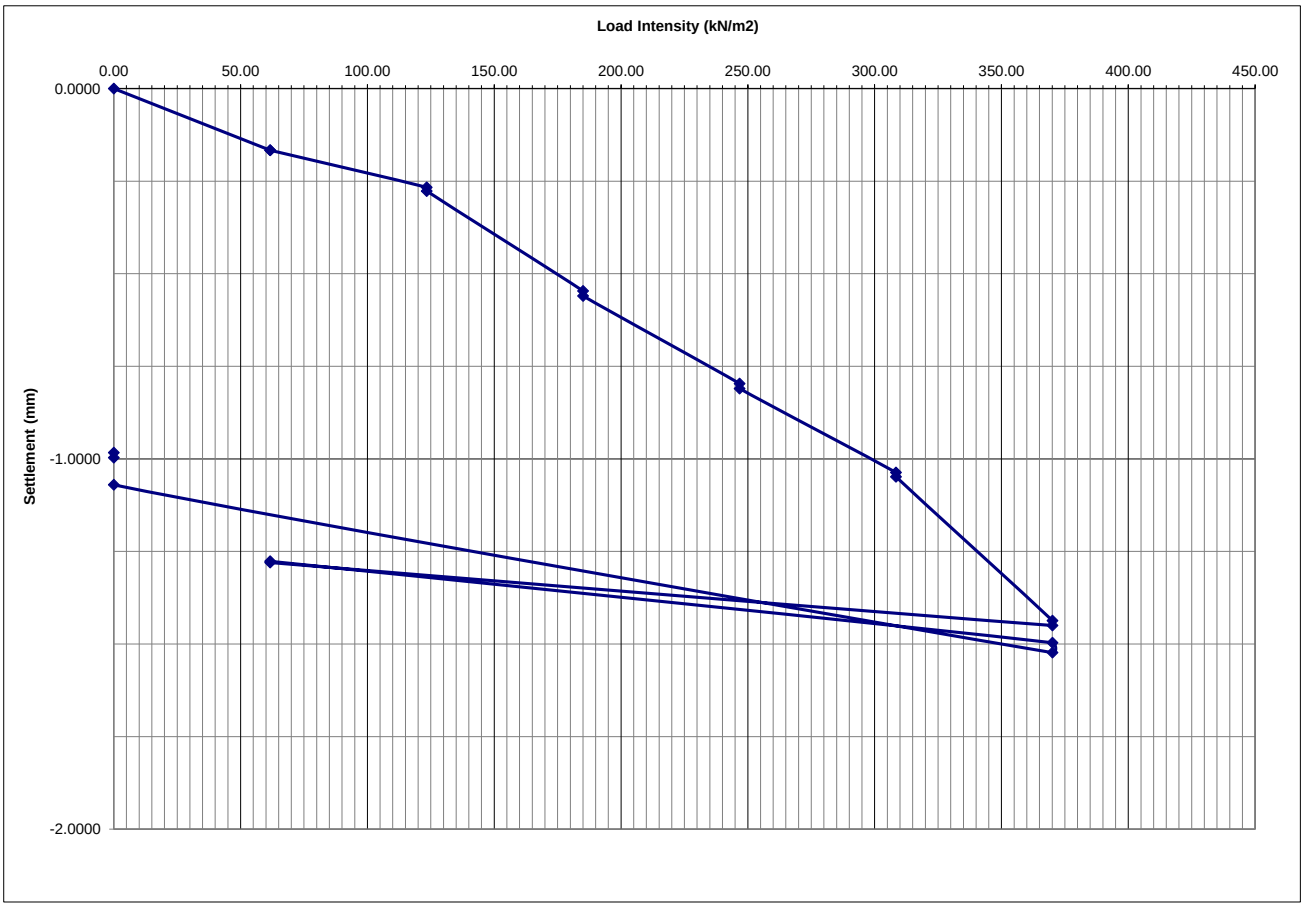
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR121	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.52	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 74%

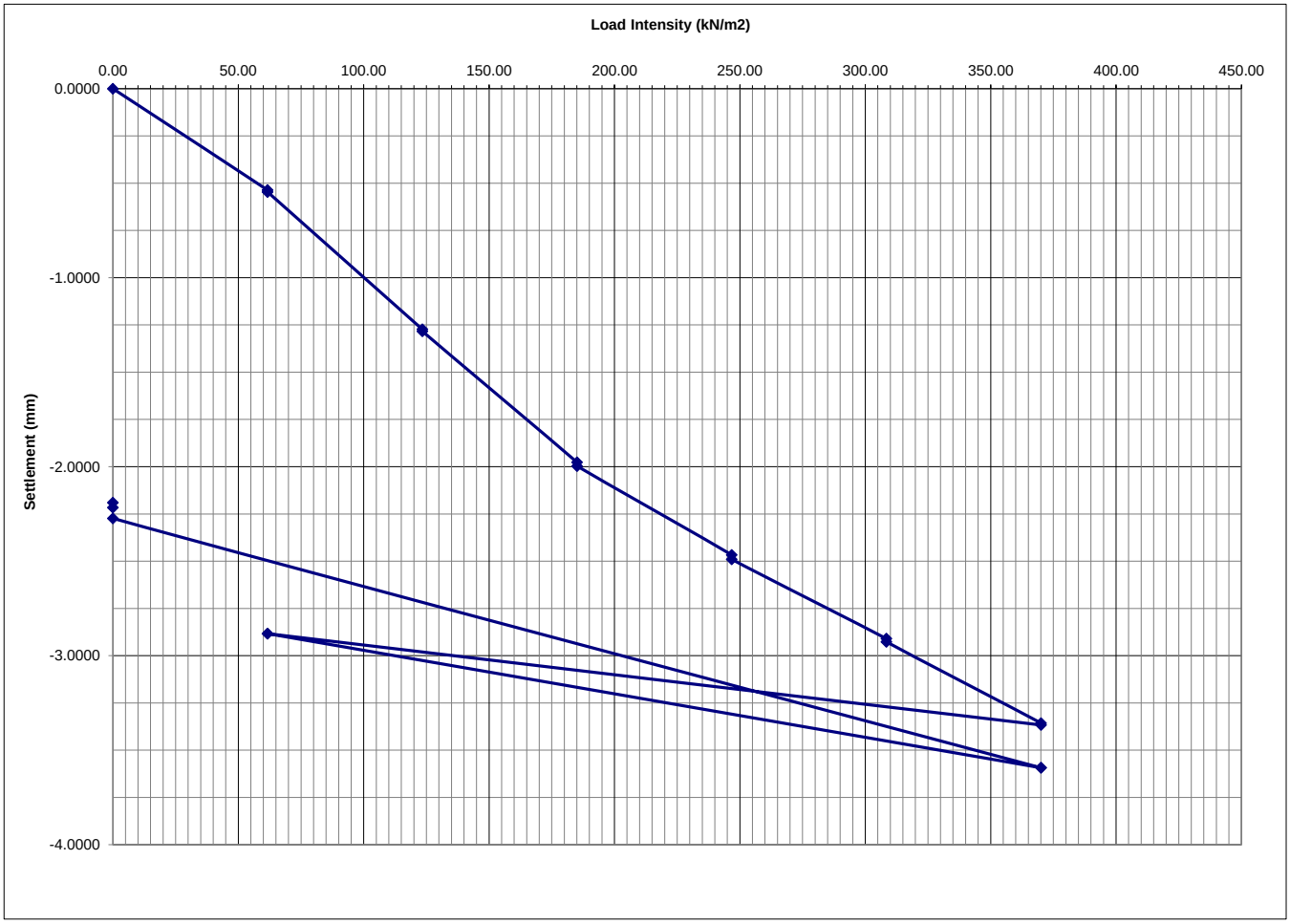
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	04/10/2021
Site Ref:	14-575	**Type of Kentledge:**	17 Tonne Excavator
Test No.:	CBR101	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-3.59	**Weather:**	Cloudy
Strata Description:	6F2		



Equivalent CBR Value of 12%

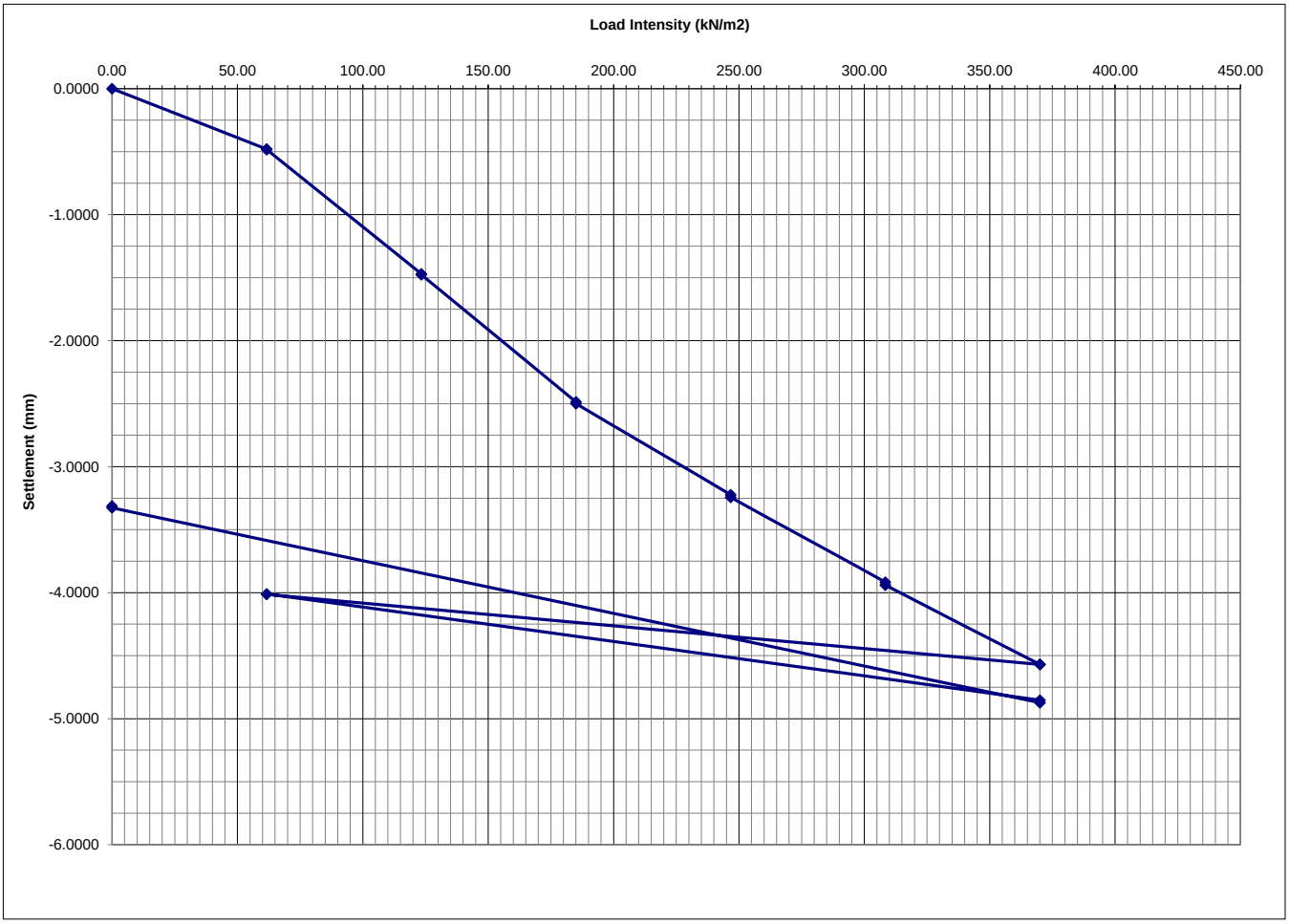
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	R. Horseman	04/10/2021	R. Horseman	04/10/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	04/10/2021
Site Ref:	14-575	**Type of Kentledge:**	17 Tonne Excavator
Test No.:	CBR102	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-4.87	**Weather:**	Cloudy
Strata Description:	6F2		



Equivalent CBR Value of 10%

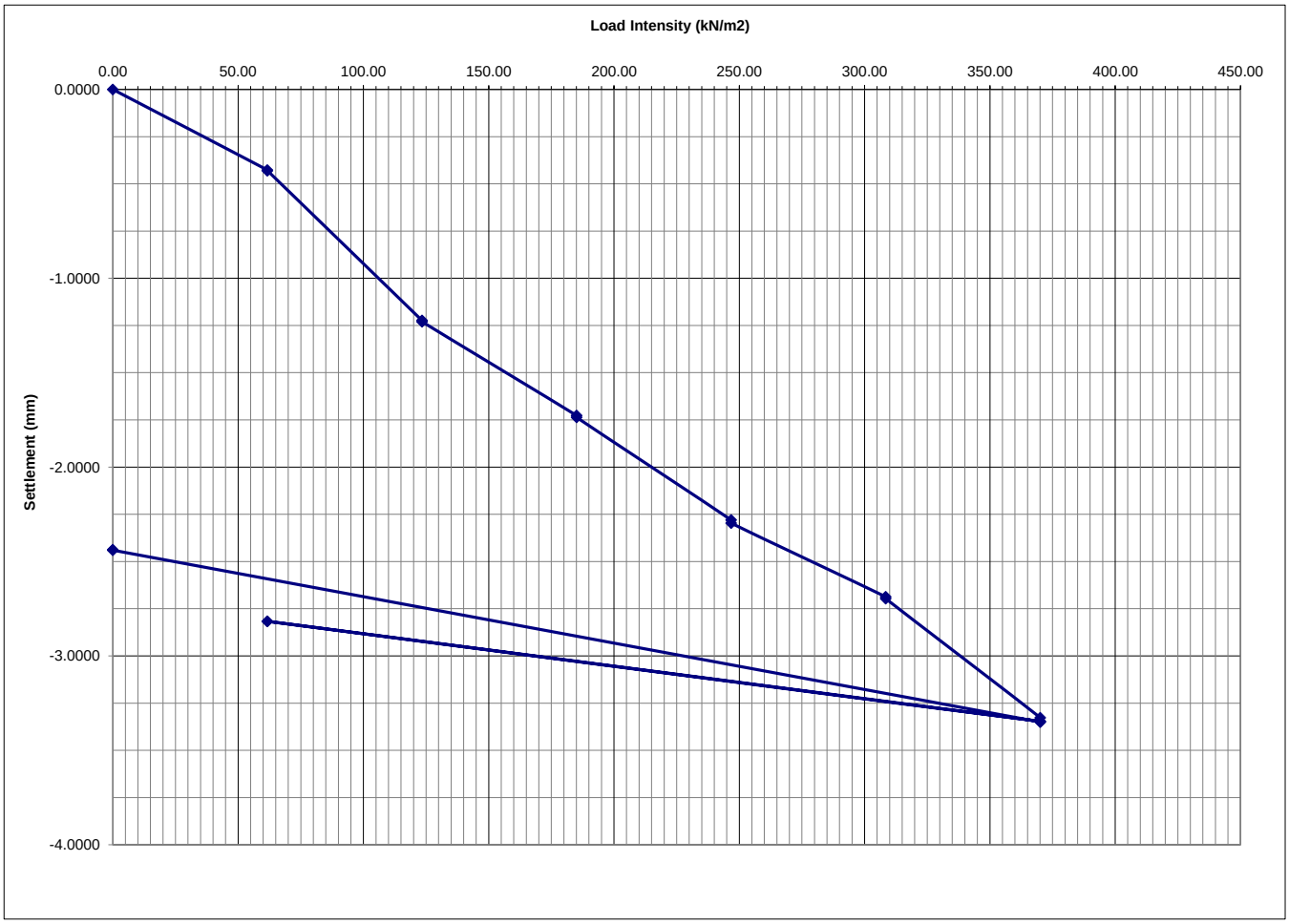
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	R. Horseman	04/10/2021	R. Horseman	04/10/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	04/10/2021
Site Ref:	14-575	**Type of Kentledge:**	17 Tonne Excavator
Test No.:	CBR103	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-3.35	**Weather:**	Cloudy
Strata Description:	6F2		



Equivalent CBR Value of 13%

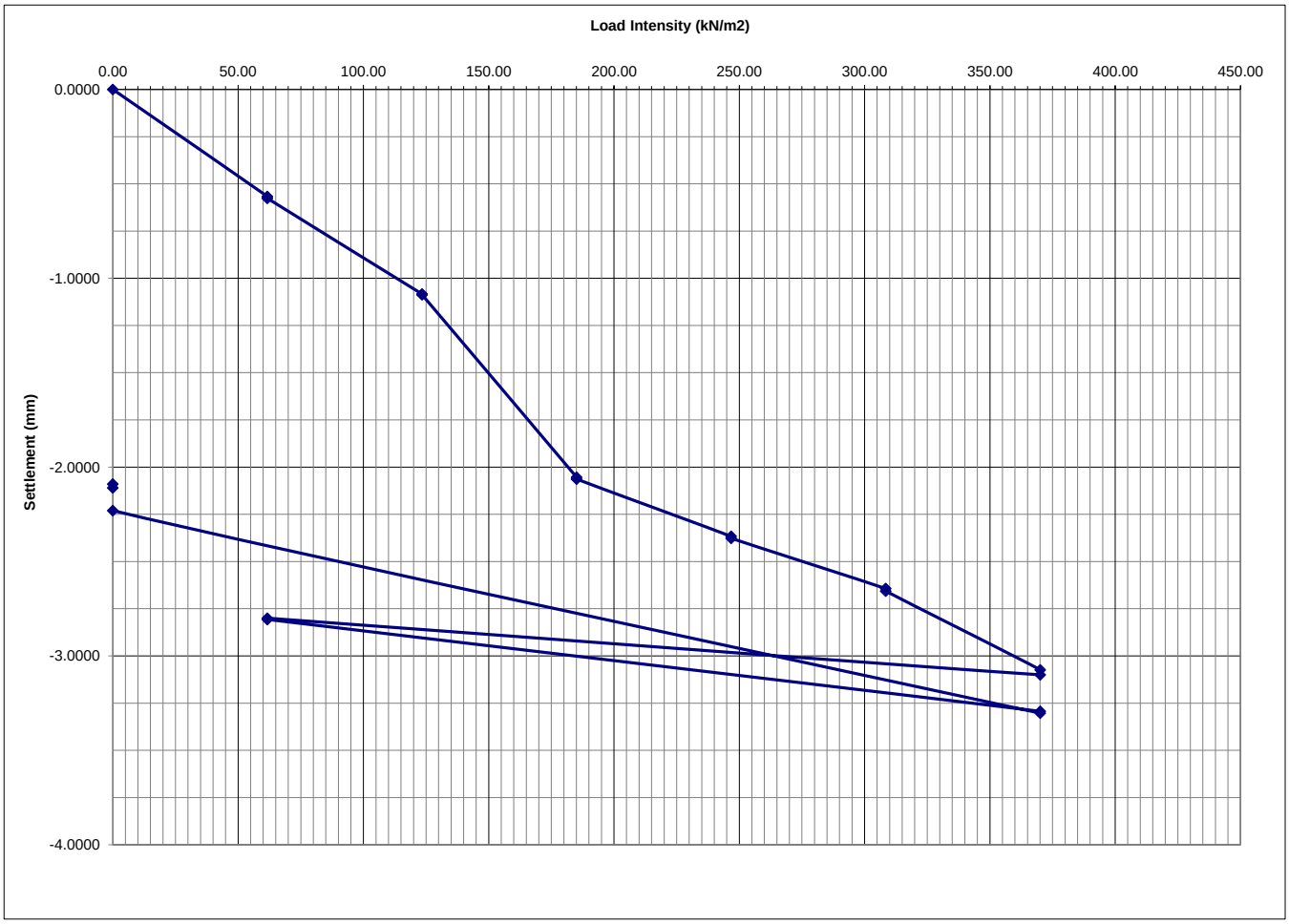
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	R. Horseman	04/10/2021	R. Horseman	04/10/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	04/10/2021
Site Ref:	14-575	**Type of Kentledge:**	17 Tonne Excavator
Test No.:	CBR104	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-3.30	**Weather:**	Cloudy
Strata Description:	6F2		



Equivalent CBR Value of 15%

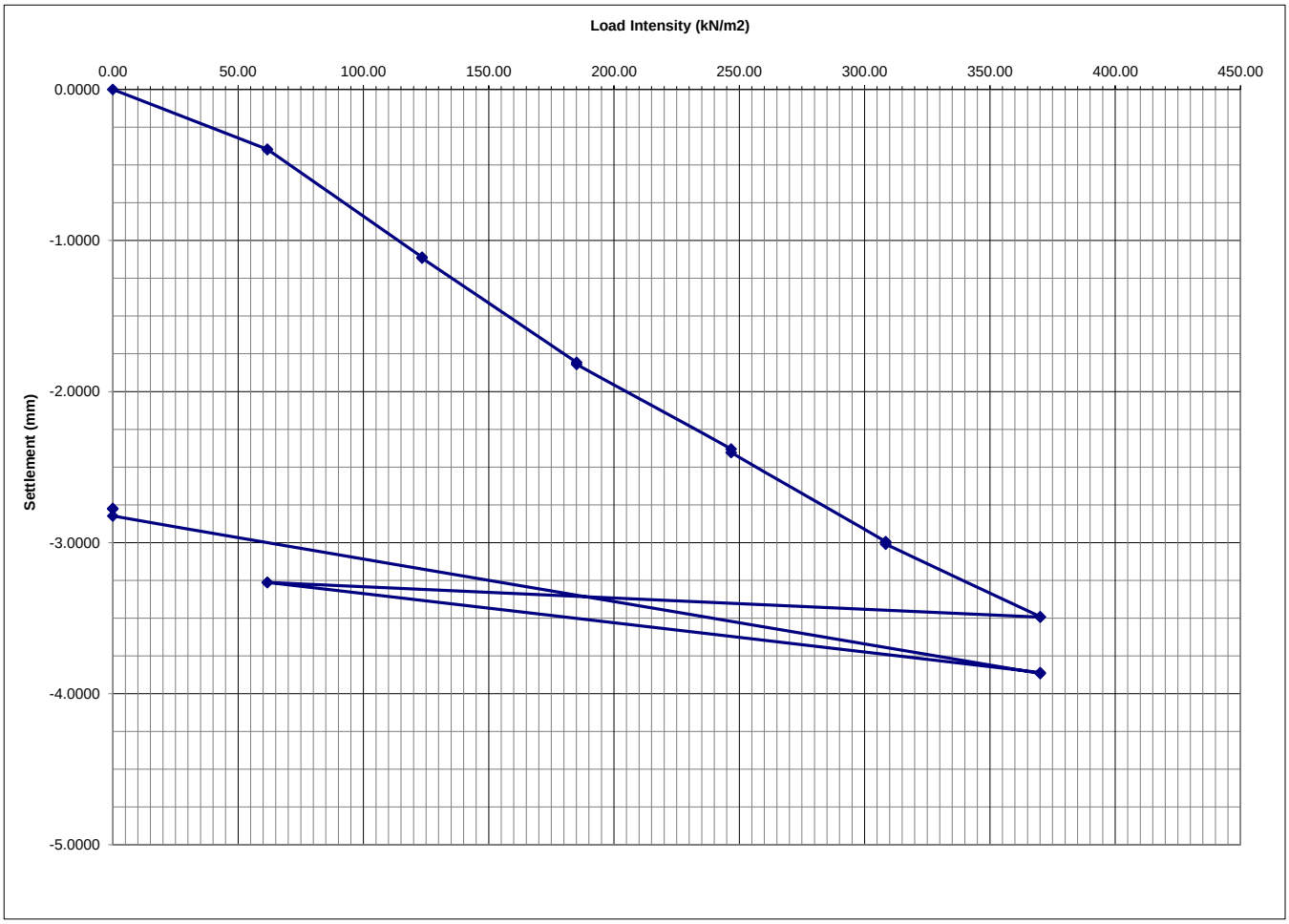
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	R. Horseman	04/10/2021	R. Horseman	04/10/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	04/10/2021
Site Ref:	14-575	**Type of Kentledge:**	17 Tonne Excavator
Test No.:	CBR105	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-3.87	**Weather:**	Cloudy
Strata Description:	6F2		



Equivalent CBR Value of 15%

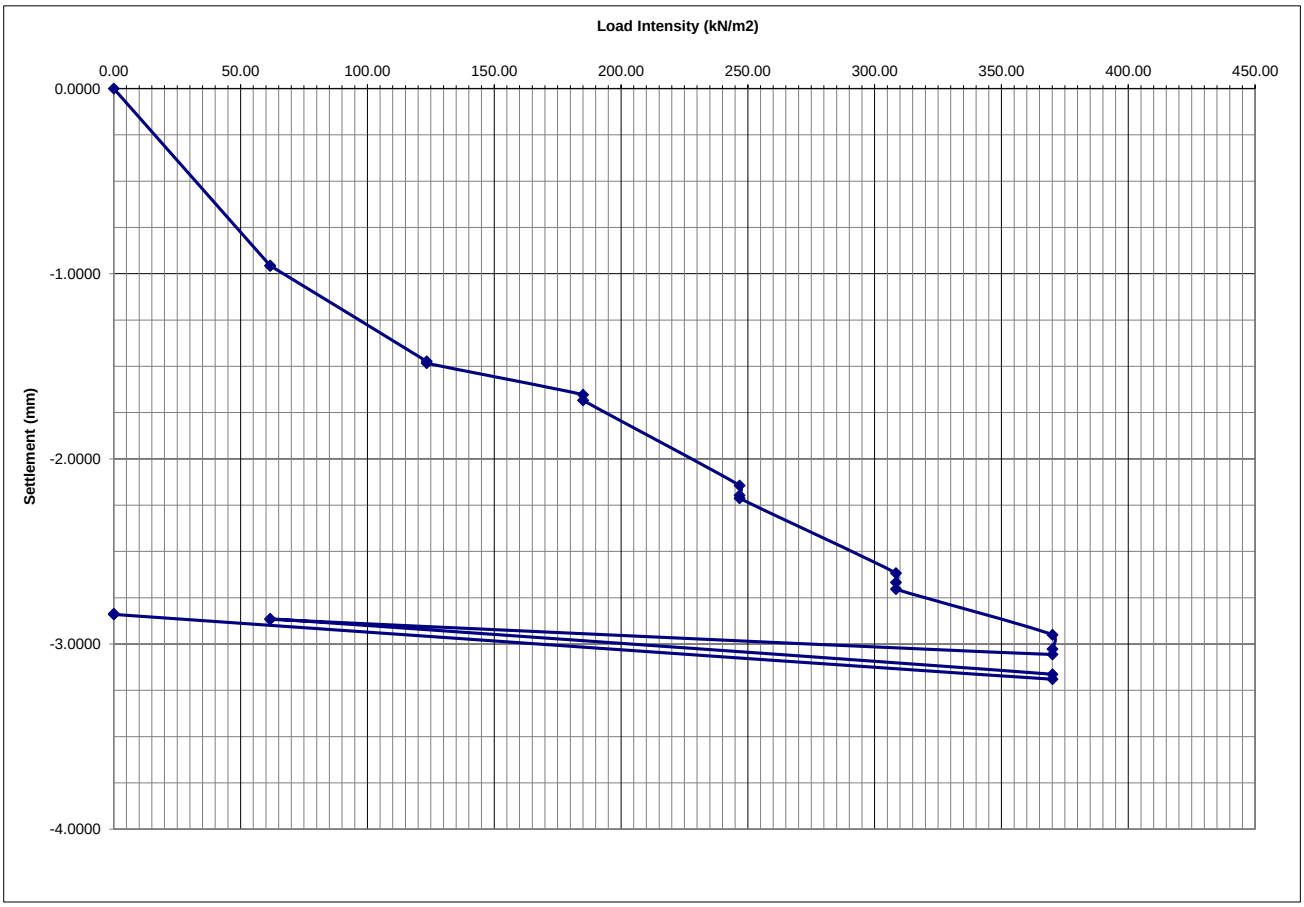
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
J. James	R. Horseman	04/10/2021	R. Horseman	04/10/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR108	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-3.19	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 9%

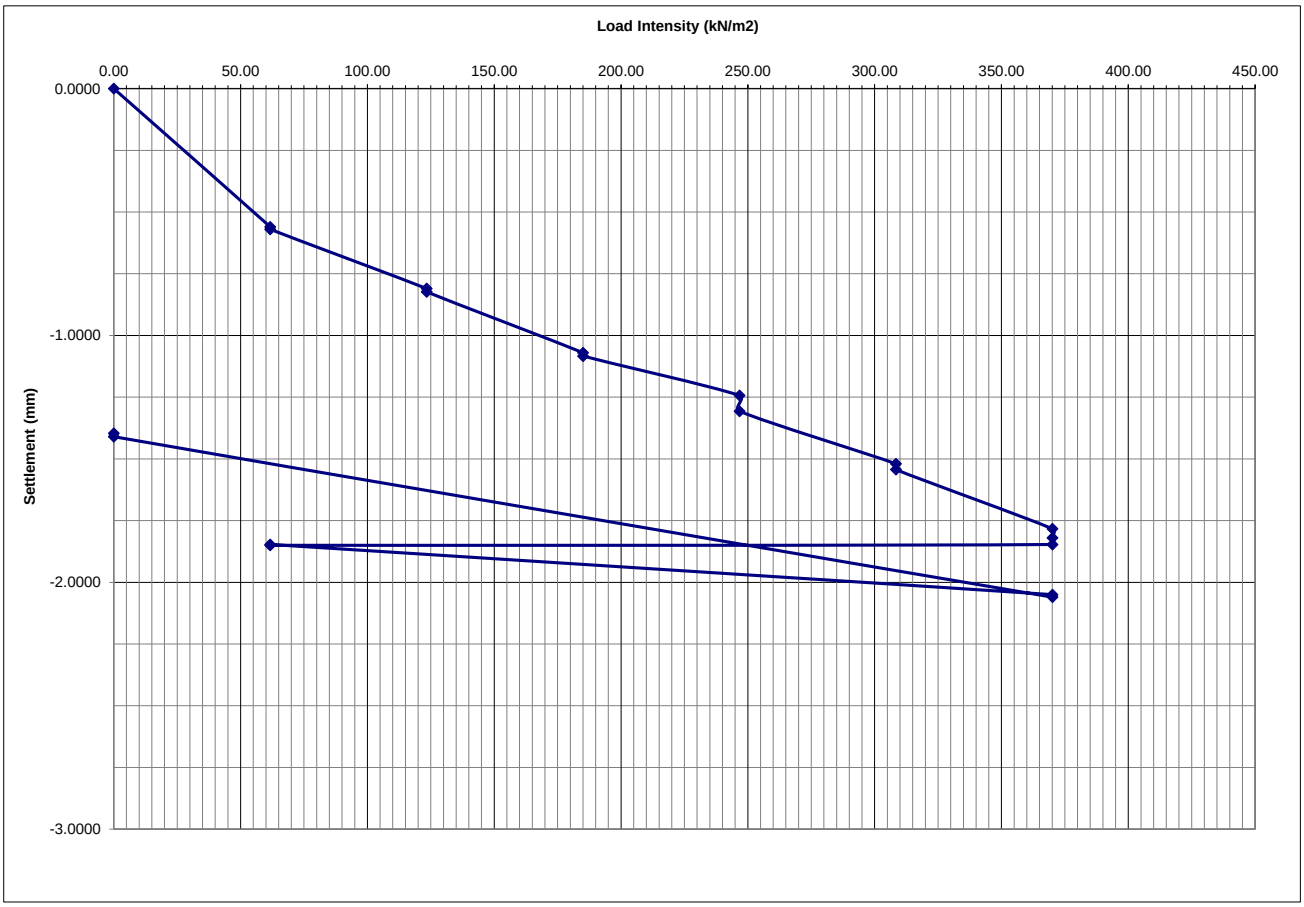
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR109	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-2.06	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 6%

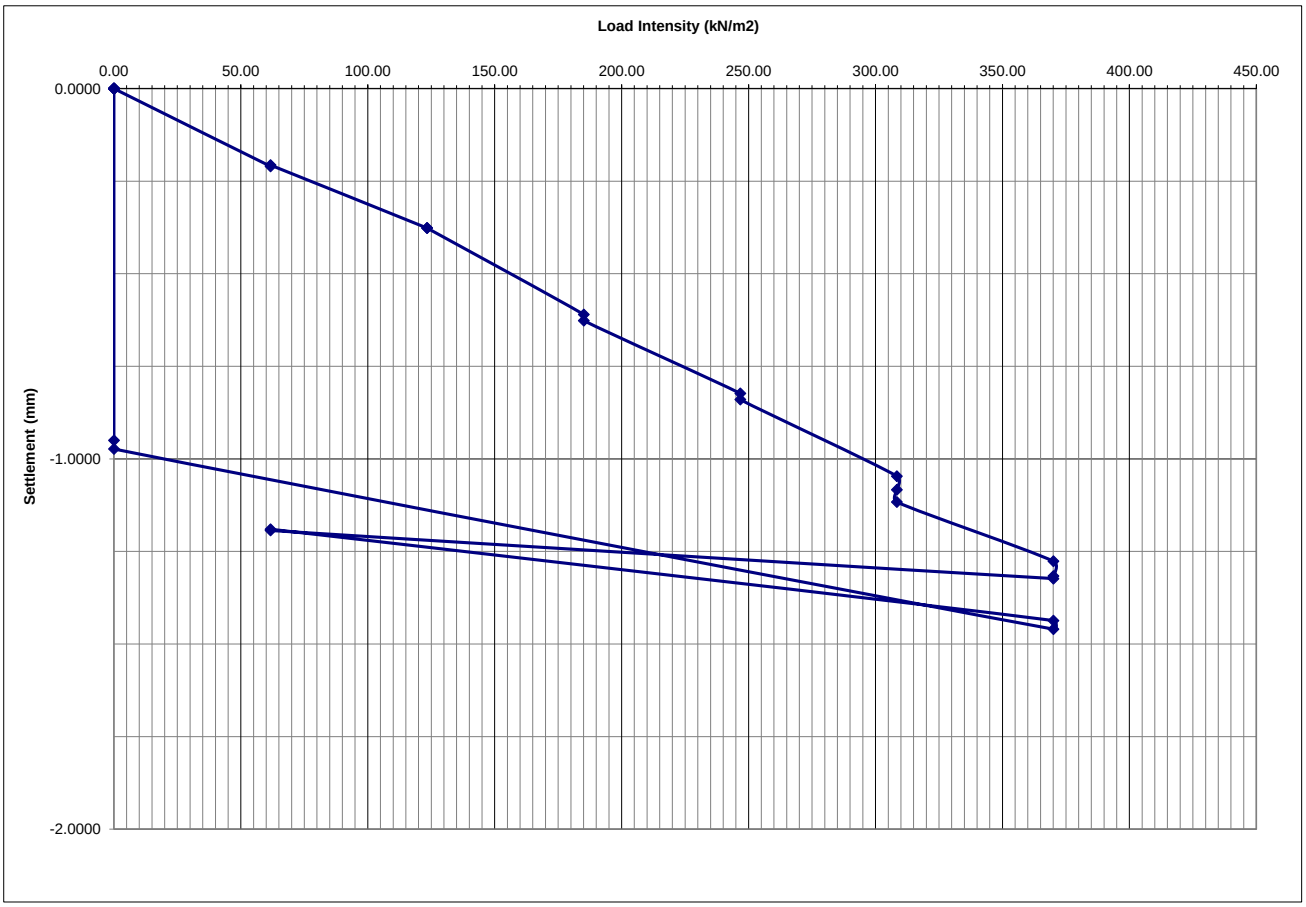
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR110	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-1.46	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 42%

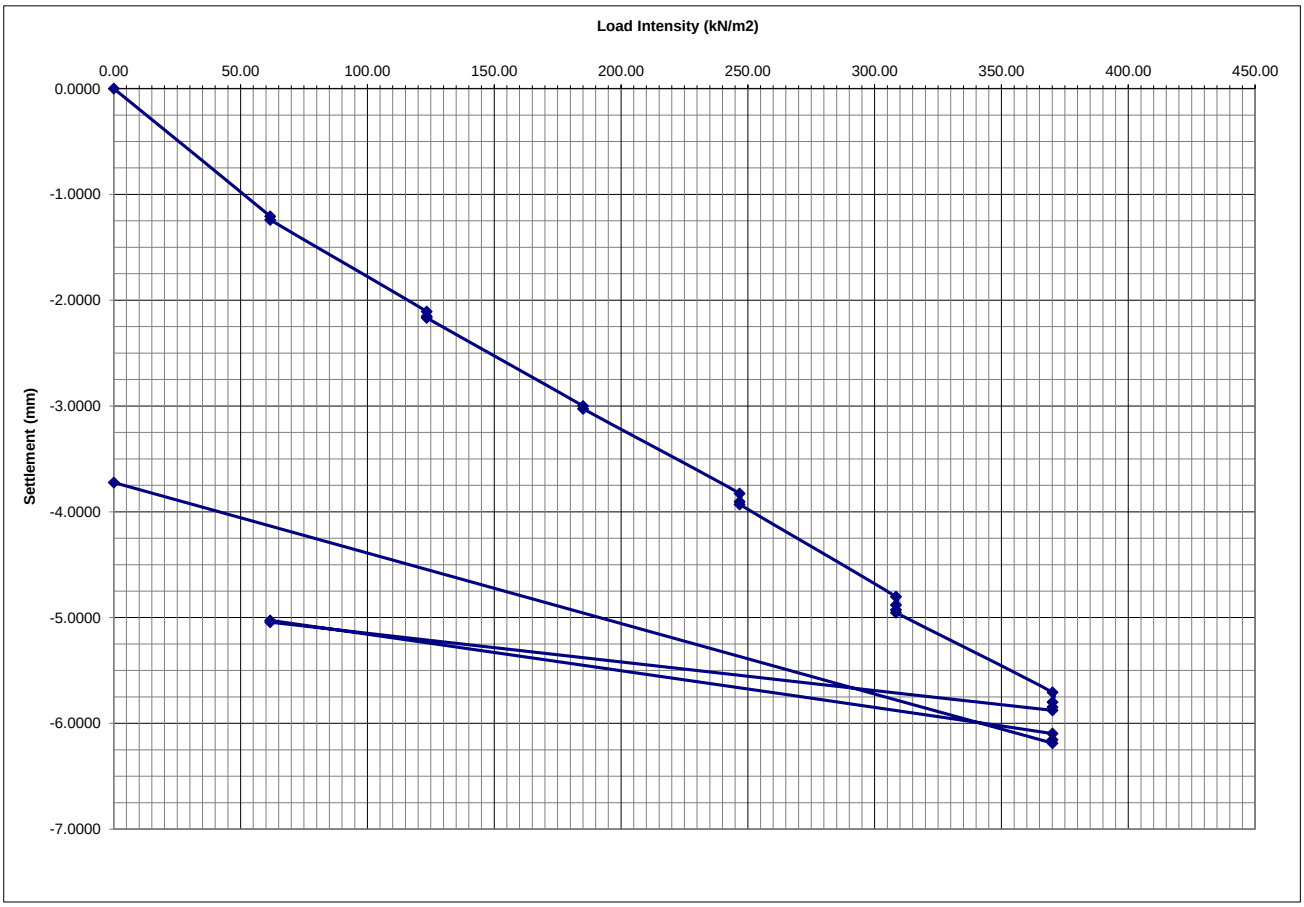
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR111	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-6.19	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 4%

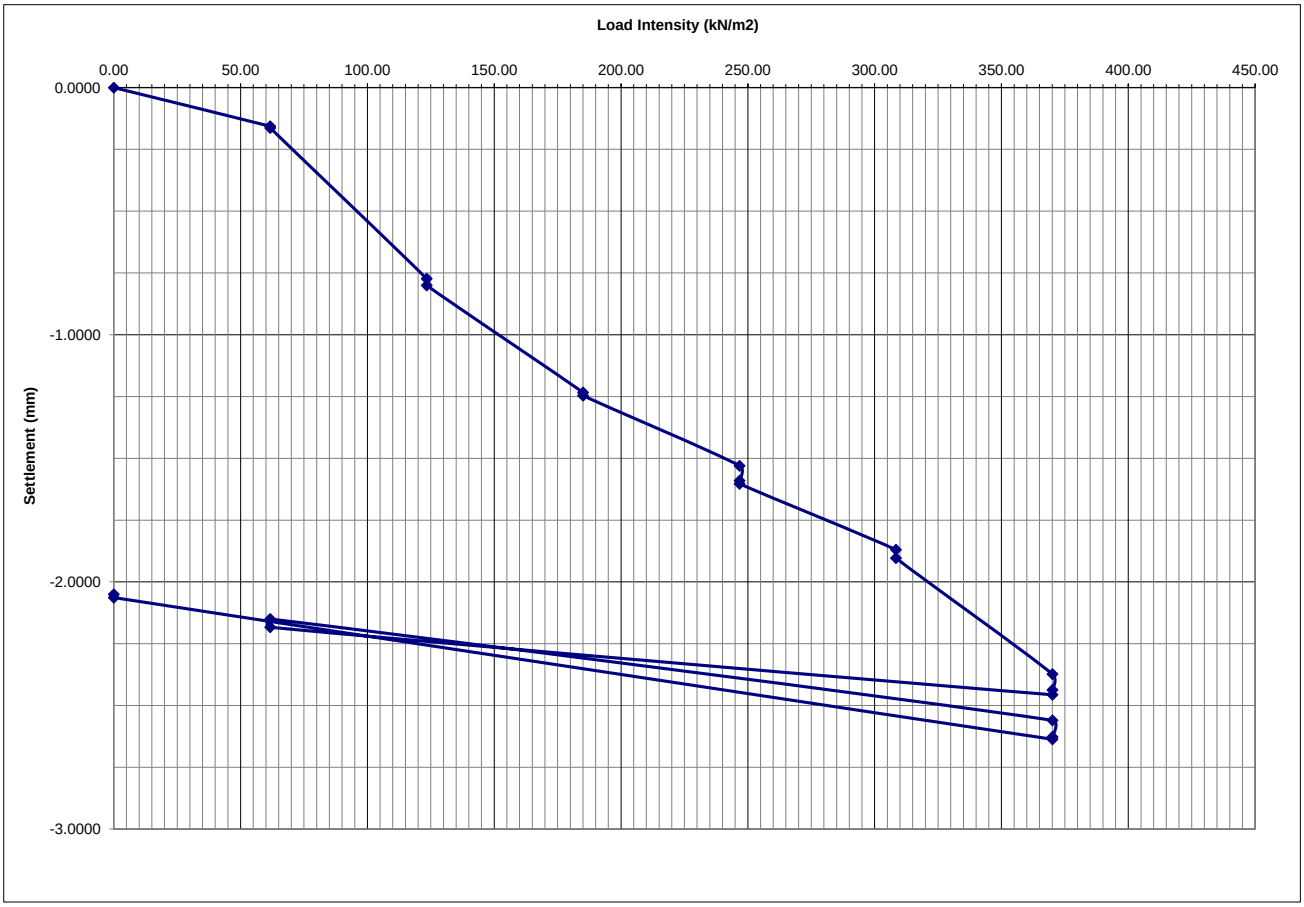
Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

Vertical Deformation Test-Equivalent CBR Value

In Accordance with BS1377: Part 9:1990

Site Name:	**Mayfield Depot**	**Test Date:**	14/09/2021
Site Ref:	14575	**Type of Kentledge:**	30 Tonne Excavator
Test No.:	CBR112	**Test Depth (m bgl):**	GL
Plate Diameter (mm)	450	**Easting:**	N/A
Maximum Applied Pressure (kN/m2):	370.09	**Northing:**	N/A
Maximum Deformation (mm):	-2.64	**Weather:**	Dry
Strata Description:	Upfill		



Equivalent CBR Value of 26%

Comments

Site Engineer:	Checked By:	Date:	Approved By:	Date:
P. Lavelle	N Gregory	16/09/2021	R Walker	16/09/2021

APPENDIX IX
CORRESPONDANCE AND REGULATORY APPROVAL

E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

info@E3P.co.uk
www.e3p.co.uk

Manchester | London | Edinburgh

Ref: 14-575-L1
Date: 5th October 2021

Sean Flynn
P.P. O'Connor
61 Mosley Road
Trafford Park
Manchester
M17 1GJ

BY Email

Dear Sean,

REVISED CONTROLLED WATERS RISK ASSESSMENT MAYFIELD PLOTS M, N & O.

INTRODUCTION

This letter report contains a revised controlled waters risk assessment in support of the safe reuse of Made Ground at the above site.

The Made Ground being assessed is a stockpile of some 2000 m^3 of ashy material containing concentrations of leachable arsenic in excess of the acceptability criteria given in the approved remediation strategy. Subject to the acceptance of this assessment, the Made Ground is to be re-used beneath hardstanding and above groundwater in Plot M, where its exposure to leaching is minimal and controlled waters receptors are adequately protected.

The scope of this assessment comprises:

- A review of previous reports and information;
- A review of the source of contamination;
- Chemical analysis of Made Ground in question;
- A review of groundwater monitoring data and site conditions;
- Updated conceptual site model;
- A qualitative assessment of leachable arsenic risks;
- A detailed risk assessment for arsenic; and,
- The provision of conclusions and recommendations on the safe reuse of the material.

The location of the Plots in relation to the adjacent proposed park development is shown in Figure 1. The proposed development in Plot M comprises:

Plot M: A nine storey office development above basement with mezzanine and plant level (Class B1) with ground floor Class A1 (Shop), A2 (Financial and Professional Services), A3 (Café and Restaurant), A4 (Drinking Establishment) B1 (Office) uses, rooftop amenity spaces and terrace levels, associated public realm and riverside walkway;

FIGURE 1 INDICATIVE LOCATION OF PLOTS M, N, O AND ADJACENT PARK (NTS)



PREVIOUS REPORTS AND INFORMATION

E3P has been provided with previous reports from RoC and REC, as referenced below.

- **RoC Consulting** – Phase 2 Site Investigation, Mayfield Plot M. Reference: LD/AS/ P2/3986, dated December 2019.
- **REC** – Phase 2 Geoenvironmental and Geotechnical Assessment, Plots N and O Mayfield. Reference 106841p2r0, April 2019.
- **RoC Consulting** – Remediation Strategy Phase 3A, Mayfield Plot M. Reference: 4153-ROC-XX-XX-RP-ES-P3RS1, dated December 2019.
- **RoC Consulting** - Technical Note 1.2 Hydrogeology & Groundwater Contamination, ref / AS / 4153-ROC-XX-XX-RP-ES-TN1.2, dated Feb 2021.

Regulatory approvals for the remediation strategy and technical note 1.2 were gained from both the EA and Manchester City Council under planning reference CDN/20/0691, CDN/20/0692 and CDN/20/0690.

The technical note referenced above contains a screening value of **30ug/l for leachable arsenic** in Made Ground retained in landscaped areas beneath a cover system. This was provided as a conservative interim value to enable earthworks to progress whilst further information became available. It did not account for retaining Made Ground in less sensitive areas (e.g., beneath hardstanding) or allow for a more detailed consideration of risks to controlled waters.

SOURCE AREA

On the 8th June 2021, E3P attended site to collect 16 soil samples from a 2000 m^3 stockpile of site won Made Ground (Figure 2) sourced from excavations in Plot O. The source area for the stockpile is indicated in Figure 3 and on the sample location drawing appended to this letter.

FIGURE 2 STOCKPILE OF ASHY MADE GROUND SAMPLED ON 8/6/21.



FIGURE 3 APPROXIMATE ORIGIN (CULVERT AT PLOT O) AND STOCKPILE LOCATION OF MADE GROUND MATERIAL



STOCKPILE CHEMICAL RESULTS

The samples were scheduled for a suite of chemical analysis covering the determinants required for reuse under the remediation strategy. The results are presented within the reports appended to this letter (i2 Analytical Reports 21-79947 and 21-79953). All the determinants passed the Tier 1 screening value with the exception of leachable arsenic, which ranged between 28 –180 µg/l. As a result, 15 out of 16 leachate samples failed the arsenic criteria.

A summary of the stockpile results is provided in the following table.

TABLE 1 SUMMARY OF STOCKPILE RESULTS

Material Description	Made Ground: Brown sandy gravelly clay. Gravel is fine to coarse angular to subrounded of brick, concrete, ash, glass, and ceramic.
Geotechnical Classification	1A / 1B material
Screening value leachable arsenic	30 ug/l
Volume of material	2,000 m^3
No of Lab Results	16
Max value leachable arsenic	180 ug/l
Min value leachable arsenic	28 ug/l
Mean value leachable arsenic	81.3 ug/l

EXISTING CONDITIONS AND GROUNDWATER MONITORING

Table 2 shows the site hydrogeological setting and sensitivity of the site.

TABLE 2 SITE SENSITIVITY SETTING

DISCUSSION		SENSITIVITY RATING
Contaminant Source		
Made Ground The Made Ground within the 2000 m^3 stockpile, originating from beneath historical structures at the site, is impacted by arsenic within the soil and leachate.		**High**
Pathway		
Vertical Migration With reference to the Plot M remedial strategy, this area of site is underlain by cohesive Made Ground to circa 4.10 m. High-permeability, predominantly granular Glacial Till lies beneath this with limited areas of cohesive deposits. Bedrock comprised the Chester Sandstone Formation. These deposits allow for potential migration to the controlled water receptors, particularly the aquifer. The leachate results from the stockpile samples exceed the Tier 1 values supplied by RoC within the remedial strategy for site for metalloids including arsenic which suggests that the soils have a potential to leach vertically. Groundwater monitoring data from wells installed within the SANDSTONE bedrock at the site during the remedial works (BH102, BH104, BH107, BH108) shows true groundwater to lie circa 6.00 bgl (RoC, 2020). The produced groundwater flow plan (Figure 4) is based upon the monitoring data and shows groundwater flow to be southwest beneath the site.		**High**
Lateral migration Groundwater levels have been shown to lie beneath the level of the river, therefore it is considered that the river is recharging groundwater and not vice versa at the site. However, any perched waters within granular deposits close to the river wall may migrate laterally to some degree. The retaining wall that creates part of the river channel along the northern boundary will offer some protection to any migrating perched waters, if present, although the river is known to be unlined, and so some level of permeability is anticipated.		**Medium**
Receptor		
Aquifer Classification in Superficial Drift Deposits	Glacial Till - Secondary (undifferentiated) Alluvium – Secondary (undifferentiated)	**Low**
Aquifer Classification in Bedrock	Chester Formation Sandstone – Principal Triassic Age Sandstone - Principal	**High**
Groundwater Source Protection Zone or Drinking Water Safeguard Zone	The site is not affected.	**Low**
Distance to the Closest Groundwater Abstraction Point	The site is not affected.	**Low**
Is the Site Located Within 50 m of a Surface Watercourse?	The River Medlock is adjacent to the northern boundary of the site intersecting the development parcels.	**High**
Flood Risk	The site lies within Flood Zone 2 and Zone 3.	**Medium**

The ICSM developed within the context of the site setting has identified two viable pollutant risks which would be the downward migration of potentially mobile phase soluble contaminants to the underlying principal aquifer and the lateral migration to the adjacent surface watercourses. The sensitivity of the site with respect to controlled waters is deemed to be moderate to high, therefore further assessment is required.

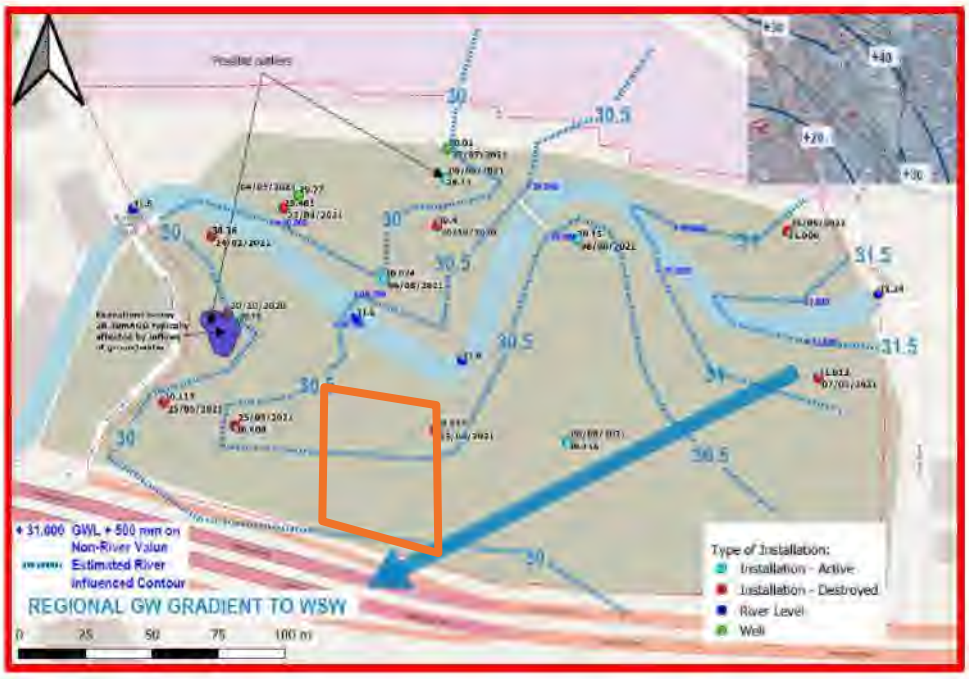
Groundwater monitoring was carried out on six occasions between March and May 2021 during remediation and earthworks. A full set of groundwater monitoring results is appended to this letter. The pertinent well for Plot M is BH102 which stands at 33.2 m AOD. An average depth to water within BH102 has been calculated as 2.66 m bgl (30.55m AOD) In addition, groundwater seepage observations were made during the reduced level excavations carried out in the plots. Groundwater was not noted in the reduced level excavations for Plot M.

During the enabling works, the river levels were noted to be higher than the level of groundwater being recorded within the existing wells on the site.

The original site investigation completed by RoC in 2019 for Plot M presents a chemical report from a water sample obtained from BH102 and the level of arsenic recorded is 0.69 µg/l.

A combined contour plan indicating groundwater level and flow direction beneath Plots M - O is appended to this letter. The area of concern for this letter is just that of Plot M as this is where material is due to be placed.

FIGURE 4 GROUNDWATER CONTOUR PLAN (APPROX PLOT M LOCATION IN ORANGE)



UPDATED CONCEPTUAL SITE MODEL AND QUALITATIVE ASSESSMENT

A cross section of the updated CSM through Plot M is appended to this letter. The updated CSM indicates:

- The site is underlain by predominantly Made Ground and limited areas of Alluvium over the Chester Formation (principal aquifer).

- There is an unsaturated zone beneath Plot M from ground level (33.2 m AOD) to 30.55 m AOD based on maximum observed groundwater levels recorded within BH102 which is installed at Plot M during the monitoring period.

- The contours generated from monitoring indicate that groundwater does not flow towards the River Medlock within the site boundary – it flows towards the south indicating that the River Medlock recharges the principal aquifer.

- With regard to controlled waters risks, the plausible pollutant linkages are:

    - Downward percolation of rainwater through leachable Made Ground towards the principal aquifer and,

    - Lateral migration of leachable contaminants within the principal aquifer. This only relates to the material in its original location when placed close to the river. If the material is removed and placed in Plot M, then the risk of lateral migration is mitigated due to distance to the River.

The proposed development will provide an effective barrier to infiltration beneath Plot M. The pollutant linkages associated with leachable Made Ground will therefore be broken by relocating the material beneath Plot M under hardstanding surface cover and above the groundwater level. This strategy prevents infiltration of rainwater through the leachable Made Ground mobilising the arsenic and removes the risks associated with downward percolation and lateral migration of leachable contaminants into the aquifer. This would cause no unacceptable risk to the underlying aquifer.

DETAILED QUANTITATIVE RISK ASSESSMENT

The quantitative risk assessment of controlled waters is designed to generate site specific screening values for comparison with the soil and soil leaching results to ensure that controlled waters are not adversely affected by any future migrating plume of contamination.

The Remedial Target Worksheets (v3.2) have been utilised to achieve this purpose by characterising a simplified conceptual model designed to predict migration of contaminants through the soils towards the receptor.

Site data gathered from laboratory analysis, site testing and logging records, together with published data, has been used to define parameters to assess the soil and groundwater beneath the site.

Modelling of the contamination was assessed on three levels which consider distances to compliance points and different assumptions about the attenuation of contaminants. The three levels of assessment for the derivation of soil remedial targets and their assumptions are briefly described as follows:

- **Level 1 soils –** compliance point is taken as the soil zone. There is no allowance for processes such as dilution or attenuation which might affect contaminant concentrations along the pathway between the site and receptors. At Level 1 the soil remediation target is equal to a calculated soil concentration as only soil data (as opposed to soil leaching data) is available. The empirical equations calculated by the model describe soil-water partitioning and are therefore sensitive to the value of the partition coefficient.

- **Level 2 soils –** considers how dilution of contaminants leached from soil by groundwater flow below the site and attenuation of pollutants within the unsaturated zone are sufficient to reduce contamination concentration to acceptable levels.

- **Level 3 soils and groundwater –** considers whether attenuation of pollutants down-hydraulic gradient of the source is sufficient to reduce contaminant concentrations to acceptable levels. The laboratory results can be compared with groundwater, soil or leachate results obtained from the site during the remediation.

DISCUSSION OF PARAMETERS

SENSITIVITY

The site is located in a high sensitivity setting with respect to controlled waters, bordered by the River Medlock along the northern boundary and underlain by a principal aquifer. The sensitivity with respect to surface waters and aquifer is considered to be high. However, the sensitivity with respect to the aquifer is somewhat reduced, given there are no potable groundwater abstraction points within 1 km of the site down the hydraulic gradient.

Based on the site setting, whilst both the surface watercourses and the underlying aquifer are considered to be sensitive receptors, it is considered that the principal aquifer would be the most likely receptor. Based on the position of the contaminant source on the site and the direction of groundwater flow, a 50 m compliance point would be suitable.

HYDROGEOLOGICAL FACTORS

E3P has calculated the hydraulic gradient at the site based on the topographical survey information and the levelling data from previous investigations which has resulted in a hydraulic gradient of 0.01. This value will be utilised for the calculations in all source areas.

Additionally, E3P has reviewed the annual rainfall data on the met office for the area and considering evapotranspiration and the proposed development being residential which would mean low infiltration with the site being covered in hardstanding, a 1% infiltration figure has been calculated as 0.0022 m/day based on 810 mm/year (Met Office Data 2020).

The underlying principal and adjacent surface water courses are modelled as the pathway for contaminant migration, the most likely route for contaminant migration in the water bearing strata. Where possible, site-specific values have been utilised within calculations, however some parameters relating to the nature of this aquifer have been obtained from literature sources, such as for effective porosity and bulk density.

PHYSICAL AND CHEMICAL INPUT PARAMETERS

Further details regarding the various physical and chemical input parameters required for the DQRA are included within Table 3.

TABLE 3 DQRA PHYSICAL INPUT PARAMETERS

Parameter	Value	Source	Justification
Method of calculating partition co-efficient	User Specified		
Analytical Solution	Ogata Banks		
Degradation Conditions (aerobic / anaerobic)	Assumed anaerobic conditions to remain conservative		
Level Three - Soils			
Pathway Aquifer	N/A	N/A	Migration is assumed to be via sand deposits on site to the adjacent surface watercourse or principal aquifer.

Saturated aquifer thickness (m) for each source area	100 m	Estimate from borehole data	Approximation based on ground conditions encountered on site within boreholes.
Bulk density of aquifer materials (g/cm^3)	1.18	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Air filled porosity (cm^3/cm^3)	0.30	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Water filled porosity (cm^3/cm^3)	0.24	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Effective porosity of the aquifer (cm^3/cm^3)	0.54	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Hydraulic gradient	0.01	Site Data	Calculated using site levelling data
Hydraulic conductivity of the aquifer (m/d)	6.359	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Distance to compliance point (m)	25.00	Site Compliance Point	The compliance point is believed to be representative of a hypothetical monitoring point downstream of the site from each of the three source areas.
Assumed groundwater flow direction	WNW	Site Data	Based on site data and groundwater modelling
Fraction Organic Carbon in aquifer (FOC)	0.0058	Site Data	Based on estimate
SOURCE AREA 1 – PLOT M			
Width of plume in aquifer at source (m)	40	Site Data	Based on site data
Length of plume in aquifer at source (m)	50	Site Data	Based on site data
Plume thickness at source (m)	1.00	Specified	This value is calculated from the proposed 1.00 m layer of impacted soil placement beneath the building

TABLE 4 DQRA CHEMICAL INPUT PARAMETERS

Contaminant	**Soil-water partition coefficient (cm^{3}g^{-1}) Kd**	**Source**	**Anaerobic Deg. Half-life (d)**	**Aerobic Deg. Half-life (d)**	**Henry's Law**
			Values derived from Howard et al		**Values derived from EA guidance, SR7 and LQM CIEH**
Arsenic	500	Estimate	9.99E+99	9.99E+99	0

Following a review of all previous investigation information, maximum site concentrations for both soil and groundwater have been determined for the contaminant source areas. Table 5 summarises the maximum site concentrations utilised within the RTM to generate site specific screening criteria.

TABLE 5 MAXIMUM SITE CONCENTRATIONS

Contaminant	**Max Conc in Leachate (mg/l)**	**Site Source**	**Max Conc in Groundwater (mg/l)**	**Site Source**
Arsenic	0.18	Stockpile arising from Plot O	0.00069	BH102 (RoC, 2019)

NOTES
Leachate input value used in model

RESULTS

The results of the DQRA provide remediation target concentrations for the soils and groundwater which may be utilised for validation purposes following the remediation of the impacted soils in each of the contaminant source areas. The results also demonstrate whether any elevated contaminant concentrations present within the aquifer have laterally migrated towards the adjacent surface watercourses and therefore pose an unacceptable risk to controlled waters.

The results of the detailed risk assessment are summarised in Table 6 and each individual RTM sheets are included within the letter.

TABLE 6 RESULTS OF SOURCE AREA 1

Contaminant	Source Concentration used in RTM Model		Level 3 Remedial Target Concentration	
	Leachate (mg/l)	Groundwater (mg/l)	Leachate (mg/l)	Groundwater (mg/l)
Arsenic	**0.18**	0.00069	0.138	0.0869

Remediation Target Concentrations have been produced from the RTM model which may be used to compare validation samples of the soil and groundwater following remediation of the impacted soils to confirm there will be no long-term risk to the controlled water receptors.

Each of the contaminant source areas have been modelled utilising source specific modelling input parameters to generate source specific remedial target concentrations to allow the remediation of the site. Where the existing contaminant concentration, identified during the various phases of intrusive investigation, exceeds the remedial target value, the value has been highlighted in bold.

These exceedances are summarised below:

- **Source Area 1 :** Arsenic exceeded the generated Tier 3 values for leachates within two out of sixteen samples obtained from the stockpile, Plot 1B – 105 and Plot 1A - 106. This suggests that soils from these samples each pose an unacceptable long-term risk to the identified controlled waters receptors if mobilised by groundwater.

DISCUSSION

During remedial works at Mayfield, frequent testing of the site generated soils has been undertaken in line with the remedial strategy for the site. A stockpile of 2000 m^3 of material has been sampled and identified a leachable potential for arsenic. The leachate test is a vigorous and overly conservative laboratory test and models a situation where soils become saturated and mobilise contaminants. This test may overstate the true risk of the soils.

The level of the river is noted to be above that of the groundwater level at the site, suggesting that the river recharges the groundwater, and not vice versa, thus the River Medlock is not considered to be the critical receptor in this case.

The site lies within a flood zone and groundwater levels may be at risk from rising beneath the site during flood events. Although this is the case, flood defence systems are proposed in the form of retaining walls and flood high walls to ensure the levels of groundwater will be managed post-development and do not flood the site by rising to shallower depths. As such, this is unlikely to be a risk factor with respect to the leachable potential of soils that are proposed to be placed beneath Plot M.

Furthermore, when assessing groundwater monitoring data over the period of remedial works, little change has been noted within the dip data levels recorded. This suggests that rising groundwater is unlikely to be a concern at the site.

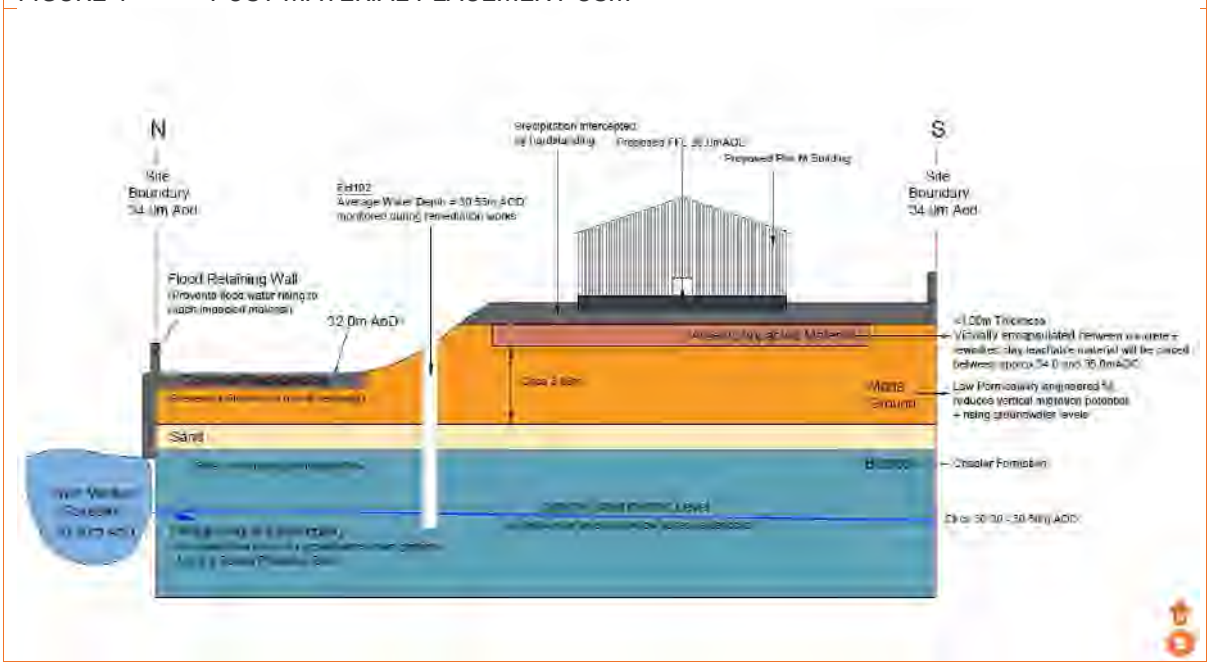
CONCLUSION AND FURTHER RECOMMENDATIONS

The initial Tier 2 DQRA completed by E3P has confirmed that the heavy metal concentrations are unlikely to pose a significant risk to controlled waters given that the site recorded concentrations are generally below the SSRT's derived by the P20 RTM assessment.

Furthermore, when considering the conceptual site model for the site (Figure 4), the soils will be placed above low permeability engineered fill materials and below impermeable surface that is the concrete slab of the proposed building. Therefore, there will be very limited potential for any infiltration to reach the soils and mobilise the arsenic. The low permeability engineered fill will act as a barrier to the vertical migration of contaminants and limited infiltration to the soils will ensure no unacceptable levels of lateral migration occurs.

Should the construction of the development be delayed at any point, an impermeable membrane should be placed across Plot M to ensure no infiltration potential arises as a result of surface water. A slight grading to the membrane towards the river would be beneficial and ensure no pooling of surface water occurs.

FIGURE 4 POST MATERIAL PLACEMENT CSM



The results of the historical data review, Tier 1 qualitative and preliminary Tier 2 quantitative risk assessment has allowed E3P to draw the following conclusions in respect to the risk to controlled waters:

- There has been sufficient testing of soils at the site during remediation and enabling works;
- The primary receptors are identified as the River Medlock and the underlying principal aquifer. Although there are no recorded groundwater abstraction points down the hydraulic gradient of the site and the site does not lie within a source protection zone, therefore reducing the sensitivity of the aquifer receptor.
- The water level of the River Medlock is above that of the groundwater level at the site. Therefore, the River is likely to recharge the groundwater and not vice versa as shown on the post works CSM;

- Impacted soils should be placed in a layer beneath the building footprint of Plot M at the site, below the construction build up, to ensure it is confined by the concrete floor slab and protected from percolating precipitated water. This will ensure no unacceptable risk of mobilisation and subsequent migration of arsenic occurs at the site from surface water;

- Impacted soils should be placed above the ambient groundwater level so that the material remains unsaturated, to reduce the potential for the mobilisation of arsenic from groundwater.

- An impermeable membrane should be placed across Plot M to ensure no infiltration potential arises as a result of surface water. A slight grading to the membrane towards the river would be beneficial and ensure no pooling of surface water occurs.

Based on the above, a phase of remediation to the soils is not considered to be required and careful management of soils will ensure no unacceptable risk to the aquifer or river. A Post-works Conceptual Site Model has been produced and is appended to this letter to show the proposed placement option for the soils.

Continued monitoring of groundwater at the site within retained wells and of the river is recommended to ensure no future mobilisation of contaminants occurs and to confirm that the proposed solution for the placement of the soils is successful.

The details of such should be given in the final validation report for this phase of the development.

I trust this information is satisfactory to your requirements, and should I be able to be of any further assistance, please do not hesitate to contact me.

Yours sincerely,

For and on behalf of E3P Ltd

Olivia Jackson
Project Manager

Enclosed
Proposed Development Plan
Sample Location Plan
Controlled Waters CSM
Groundwater Flow Plan
Chemical Testing Results
RTM Sheets

APPENDIX X
BOREHOLE LOGS

Trial Pit Log

TrialPit No: TP101
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.40 x 4.40 Depth 2.50	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown to black slightly clayey gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
				1.00			MADE GROUND: Light brown slighty gravelly sandy clay. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone and timber.
	2.20	Leachate		2.30			Light brown slightly gravelly sandy clay. Gravel is fine to coarse subrounded to rounded of brick, concrete, sandstone
				2.50			End of Pit at 2.50m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No TP102
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.30 x 3.20 Depth 1.60	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	1.20	Leachate		1.30			MADE GROUND: Dark brown to black slightly clayey gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
				1.60			Light brown slightly clayey gravelly fine to course sand. Gravel is fine to coarse subrounded to rounded of sandstone.
							End of Pit at 1.60m

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4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP103
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.30 x 4.00 Depth 3.10	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown to black slightly clayey gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
	2.50	Leachate		2.60			Light brown slightly clayey gravelly fine to course sand. Gravel is fine to coarse subrounded to rounded of sandstone.
				3.10			End of Pit at 3.10m

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4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP104
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.50 x 3.80 Depth 3.10	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	1.20	Leachate		1.30			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
				3.10			Light brown slightly gravelly sandy clay. Gravel is fine to coarse subrounded to rounded of sandstone.
							End of Pit at 3.10m

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4

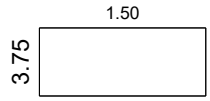
Remarks: 1.Complete 2.Stable

Stability: Unstable

Trial Pit Log

TrialPit No TP105
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): Depth 1.50	Scale 1:30
Client: PP O'Connor			Logged N Gregory



Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.60	Leachate		0.80			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
				1.10			Red very gravelly fine to course sand. Gravel is fine to course subrounded and rounded of sandstone
				1.50			Sandstone
							End of Pit at 1.50m

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP106
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.10 x 2.10 Depth 3.00	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	Leachate		0.60			MADE GROUND: Black clayey very gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
							Dark brown slightly gravelly sandy clay. Gravel is fine to coarse subrounded to rounded of sandstone.
				3.00			End of Pit at 3.00m

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4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP107
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 4.60 x 1.90 Depth 3.00	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.80	Leachate					MADE GROUND: Black clayey very gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
				1.20			Dark brown slightly gravelly sandy clay. Gravel is fine to coarse subrounded to rounded of sandstone.
				3.00			End of Pit at 3.00m

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Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP108
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.70 x 1.80 Depth 2.40	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.60	Leachate		0.20			MADE GROUND: Red angular to sub rounded cobbles of brick
				0.65			MADE GROUND: Black very gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
							Dark brown slighty gravelly sandy clay. Gravel is fine to medium subrounded to rounded of sandstone.
				2.40			End of Pit at 2.40m

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4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP109
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.80 x 3.80 Depth 2.60	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown to black slighty clayey gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
	2.00	Leachate		1.90			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
				2.60			End of Pit at 2.60m

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2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP110
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.60 x 2.00 Depth 2.40	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Red angular to sub rounded cobbles of brick
				0.60			MADE GROUND: Brown to black slightly clayey gravelly fine to course sand with pockets of ash and frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
	1.20	Leachate		1.30			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
				2.40			End of Pit at 2.40m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP111
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.30 x 1.50 Depth 2.70	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Black to brown clayey gravelly fine to course sand and frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
	1.35	Leachate		1.40			Black sandy clay
				1.60			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
				2.70			End of Pit at 2.70m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP112
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.60 x 3.00 Depth 0.50	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.40	Leachate		0.20			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick and sandstone.
				0.50			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
							End of Pit at 0.50m

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP113
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.70 x 2.60 Depth 1.40	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick and sandstone.
	1.30	Leachate		1.40			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
							End of Pit at 1.40m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP114
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.00 x 1.60 Depth 1.00	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.40			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick and sandstone.
	0.90	Leachate		1.00			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
							End of Pit at 1.00m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP115
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.50 x 2.90 Depth 0.40	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	Leachate		0.10			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick and sandstone.
				0.40			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
							End of Pit at 0.40m

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP116
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.40 x 2.40 Depth 0.40	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.25	Leachate		0.15			MADE GROUND: Black gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick and sandstone.
				0.40			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
							End of Pit at 0.40m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP117
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.30 x 1.50 Depth 3.10	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Black clayey very gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
	2.70	Leachate		2.80			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
				3.10			End of Pit at 3.10m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP118
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 3.10 x 1.80 Depth 2.00	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.50	Leachate		1.60			MADE GROUND: Brown to black slightly clayey gravelly fine to course sand with pockets of ash and frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
				2.00			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
							End of Pit at 2.00m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP119
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.50 × 3.40, Depth 2.50	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES					MADE GROUND: Dark brown to black slighty clayey gravelly fine to course sand with frequent cobbles. Gravel is fine to coarse angular to subrounded of brick, sandstone, timber and metal. Cobbles are angular of brick and concrete.
				1.80			Dark brown slighty gravelly sandy clay. Gravel is fine subrounded to rounded of sandstone.
				2.50			End of Pit at 2.50m

1
2
3
4

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No TP120
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.70 x 3.00 Depth 2.80	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					MADE GROUND: Black to brown clayey gravelly fine to course sand and frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
				1.30			Black sandy clay
				1.60			End of Pit at 2.80m

Remarks: 1.Complete 2.Stable

Stability: Stable

Trial Pit Log

TrialPit No: TP121
Sheet 1 of 1

Project Name: Mayfield Depot	Project No. 14575	Co-ords: - Level:	Date
Location: Manchester		Dimensions (m): 1.50 x 3.00 Depth 1.50	Scale 1:30
Client: PP O'Connor			Logged N Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES					MADE GROUND: Black to brown clayey gravelly fine to course sand and frequent cobbles. Gravel is fine to coarse angular to subrounded of brick sandstone timber and metal. Cobbles are angular of brick and concrete.
				1.10			Black sandy clay
				1.50			End of Pit at 1.50m

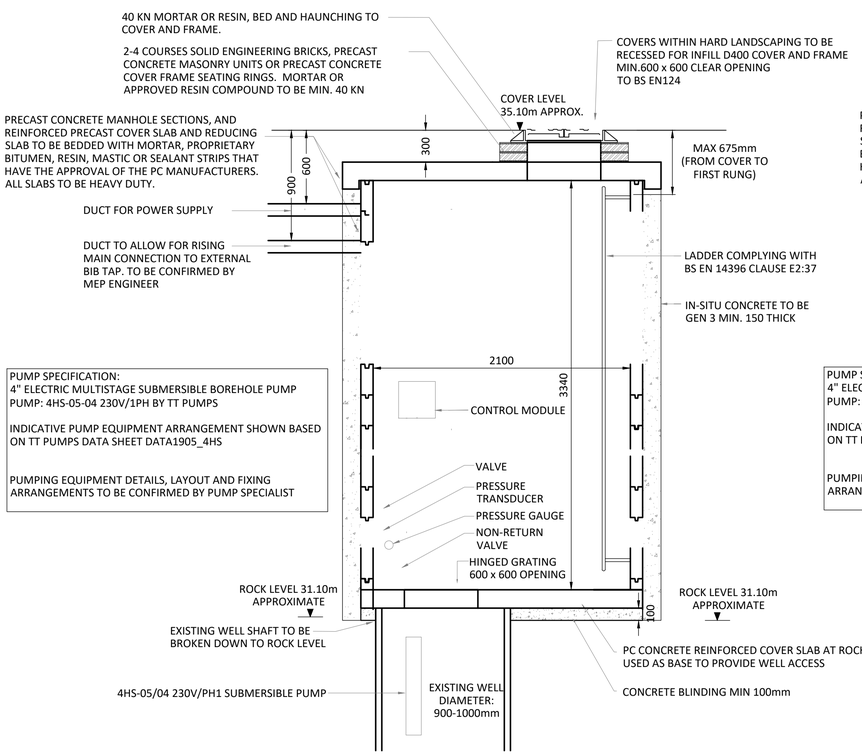
1
2
3
4

Remarks: 1.Complete 2.Stable

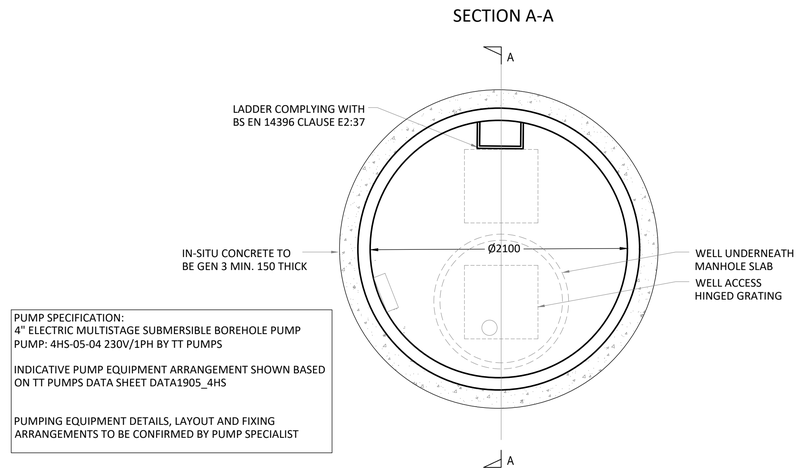
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APPENDIX XI
GROUNDWATER LEVEL DATA

APPENDIX XII
CIVIC WELL INFORMATON

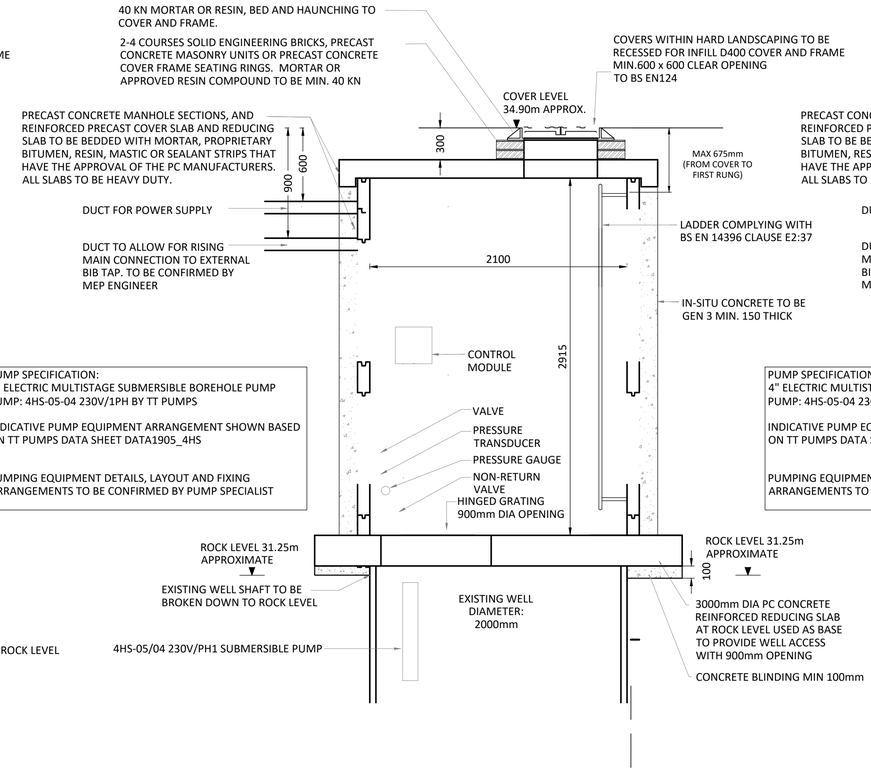


SECTION A-A

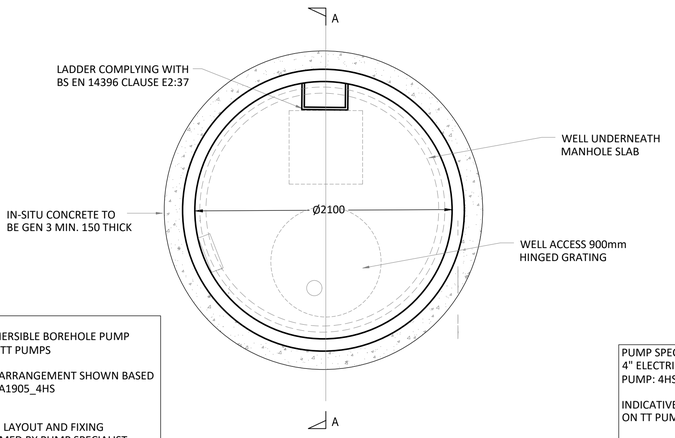


PLAN

MANHOLE DETAIL FOR WELL 2

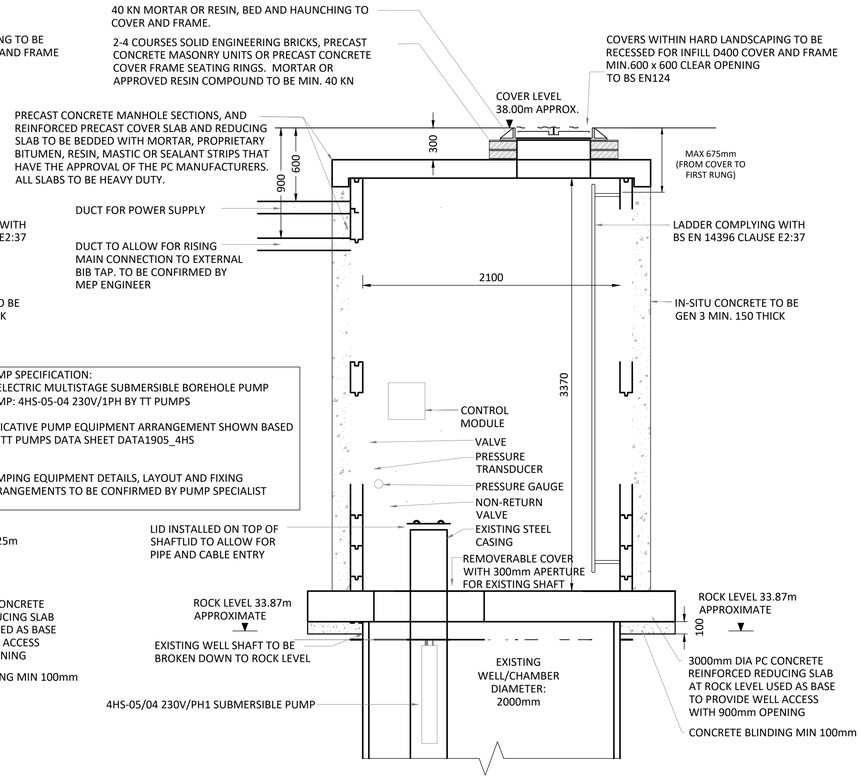


SECTION A-A

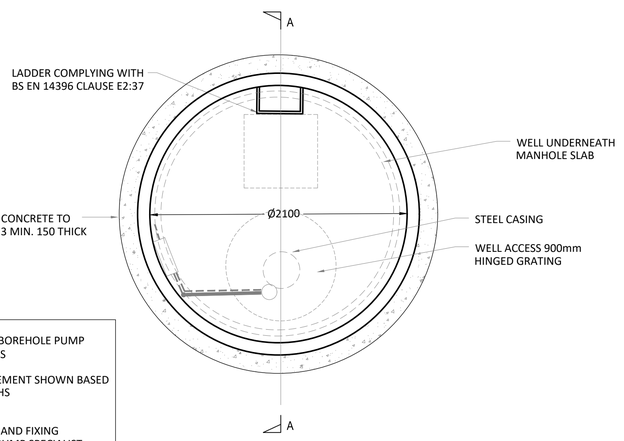


PLAN

MANHOLE DETAIL FOR WELL 6



SECTION A-A



PLAN

MANHOLE DETAIL FOR WELL 11

Standard Notes

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.
2. This drawing should not be scaled.
3. All dimensions are to be verified by the contractor on site.
4. All discrepancies should be reported to the C.A. prior to the commencement of the works.

Notes and Keys

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SEW - No Comments

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Status (A/B/C): A
Date Received: 30/07/2021
Date Returned: 12/08/2021

Date	Rev	Description	Drawn	Chk
09.08.21	A.1	ISSUED FOR CONSTRUCTION	CD	CK
30.07.21	A	ISSUED FOR CONSTRUCTION	CD	CK
29.07.21	S4.1	WELL 11 AMENDED, PUMP DETAILS ADDED	CD	CK
07.07.21	S4	ISSUED FOR APPROVAL	CD	CK
24.06.21	S3.1	WELL MANHOLE LEVELS AMENDED	CD	CK
04.06.21	S3	ISSUED FOR REVIEW	CD	CK

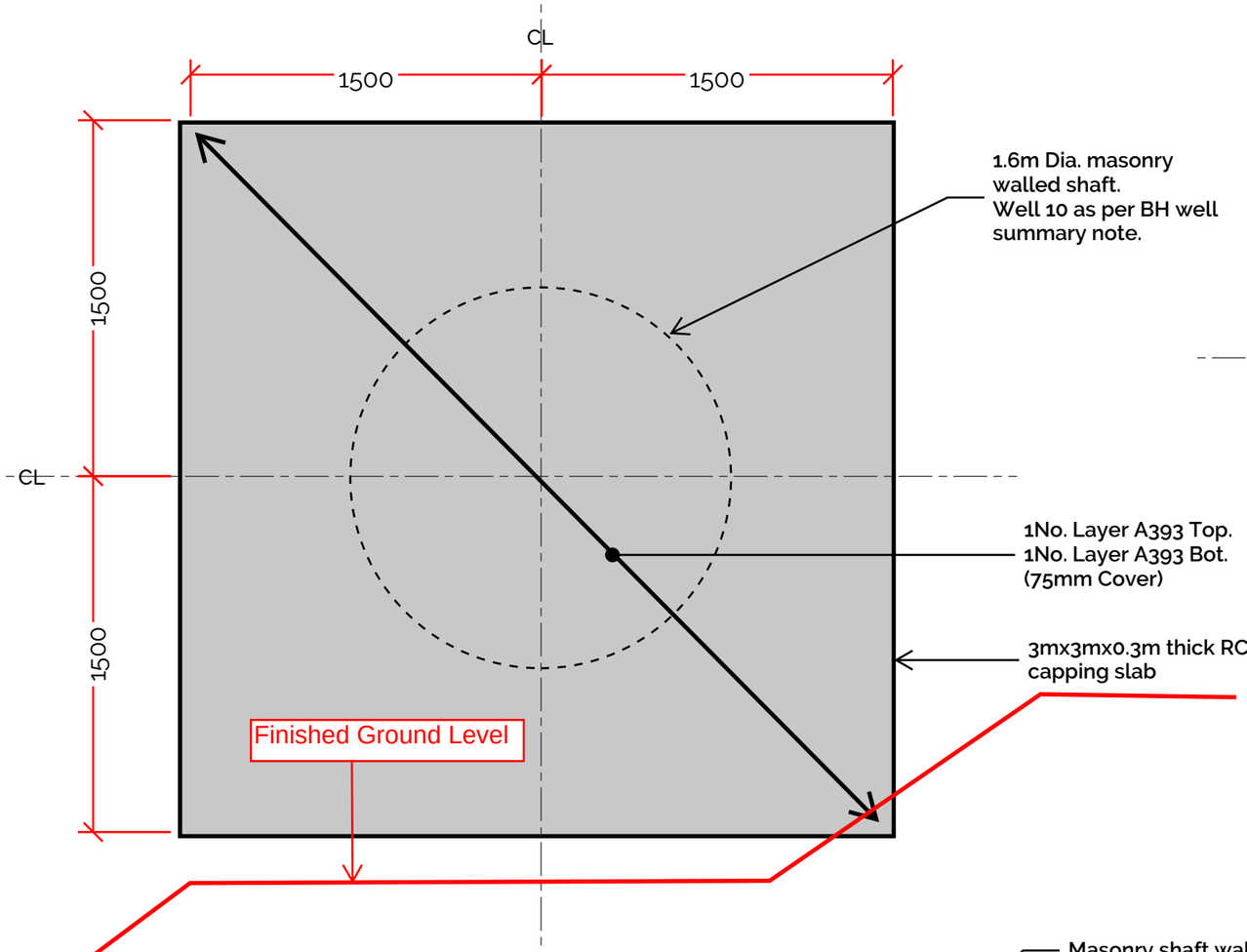
Project: MAYFIELD PARK

Title: WELL MANHOLE DETAILS

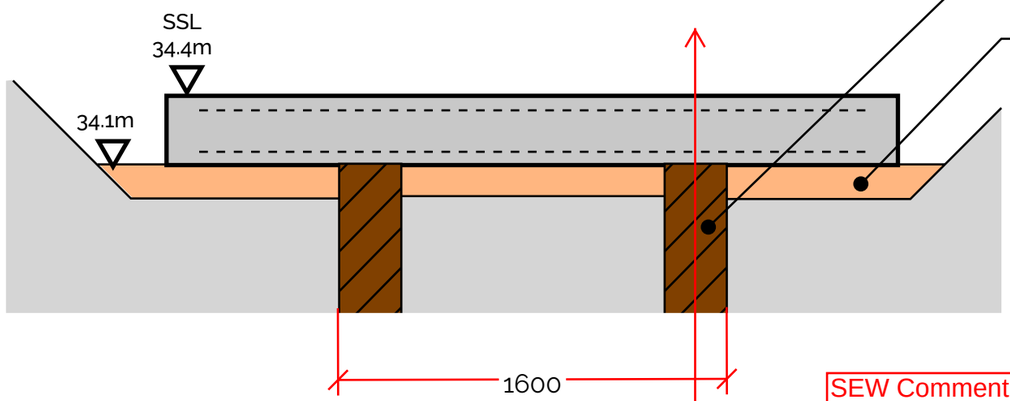
Civic Engineers
MANCHESTER Carver's Warehouse, 77 Dale Street, Manchester, M1 2HG, Tel: 0161 228 6717
LONDON Reeds Wharf, 33 Mill Street, London SE1 2AX, Tel: 020 7253 2977
LEEDS Tower Works, Unit 02-01, Globe Road, Leeds, LS11 5QG, Tel: 0113 2025 130
GLASGOW Grosvenor Chambers, 45 West Nile St, Glasgow, G1 2PF, Tel: 0141 370 1829
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Status: STAGE 5

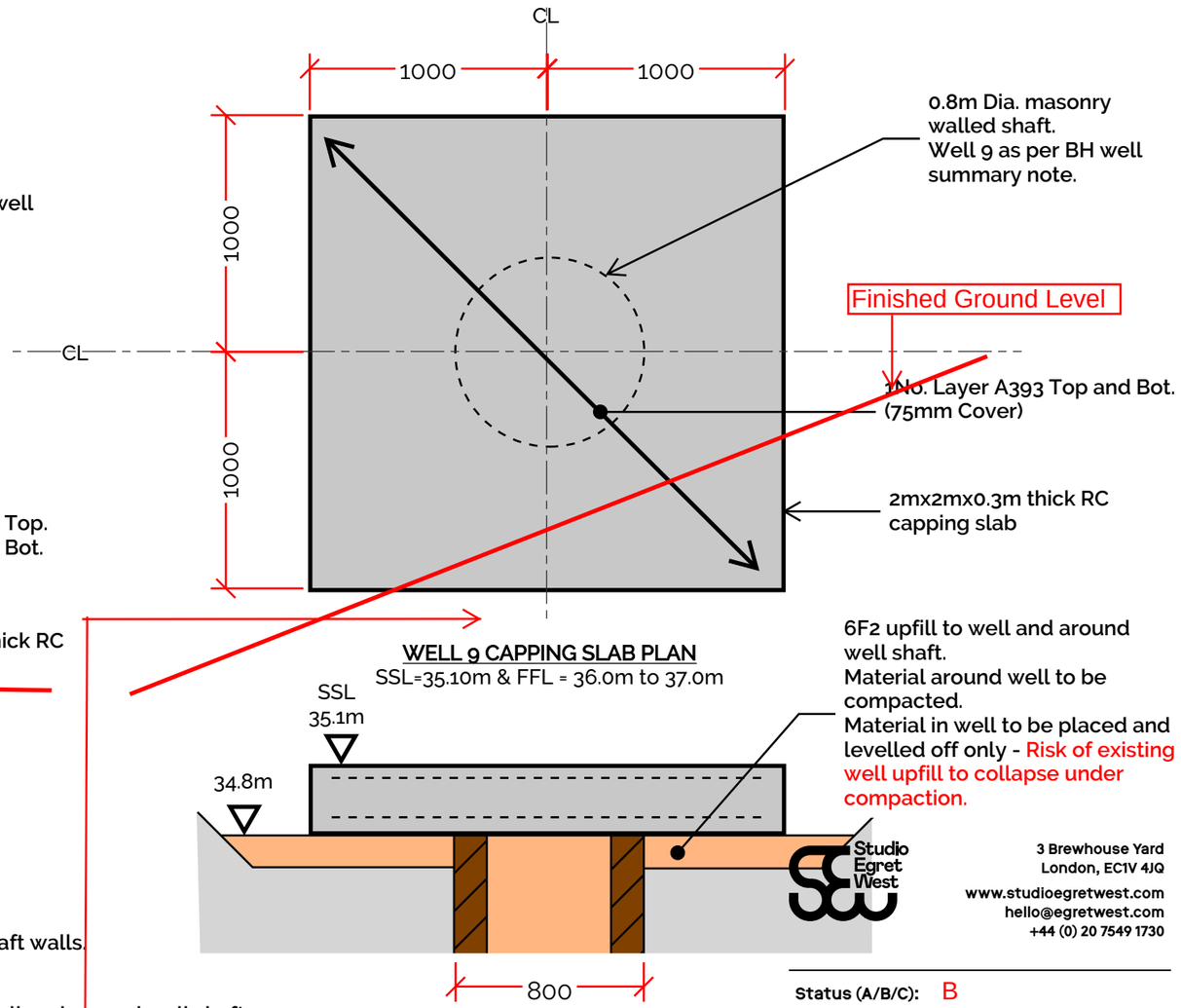
Project Number	Scale @ A1	Date Created	Drawn	Checked	Suitability	Drawing Number	Revision
1076-13	1:25	27.05.21	CD	CK	----	MAY101-WSC-EXT-CIV-DR-7020-0201	A.1



WELL 10 CAPPING SLAB PLAN
SSL = 34.4m & FFL = 35.445m to 36.165



SECTION A-A



WELL 9 CAPPING SLAB PLAN
SSL=35.10m & FFL = 36.0m to 37.0m

SECTION B-B

SEW Comment
Please confirm that capping for Well 9 and 10 allows for Landscape subsoil and topsoil to be added above the capping and that there is no requirement to have direct access to the capping slab?

Notes

Refer to Buro Happold Mayfield Welll Summary report for position and condition of revealed relic wells.

Concrete to be designated mix FND2 in accordance with BS8500-1 and suitable for class 2 sulphate conditions.

Max aggregate 20mm

All reinforcement to be Grade 500B UNO

Minimum reinforcement lap length to be 40 x Dia.

Any unsutiable / soft ground to be removed and upfilled in compacted 6F2 material except from within the shafts.

Do not place concrete when there is risk of freezing or overheating.

Levels provided by PPoC drawing C0408-EW001.

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Status (A/B/C):	B
Date Received:	19/04/2021
Date Returned:	12/08/2021

Date	Rev	Description	Drawn	Chkd
19.04.21	P01	FOR APPROVAL	LH	RD

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Project: Mayfield Park, Enabling Works

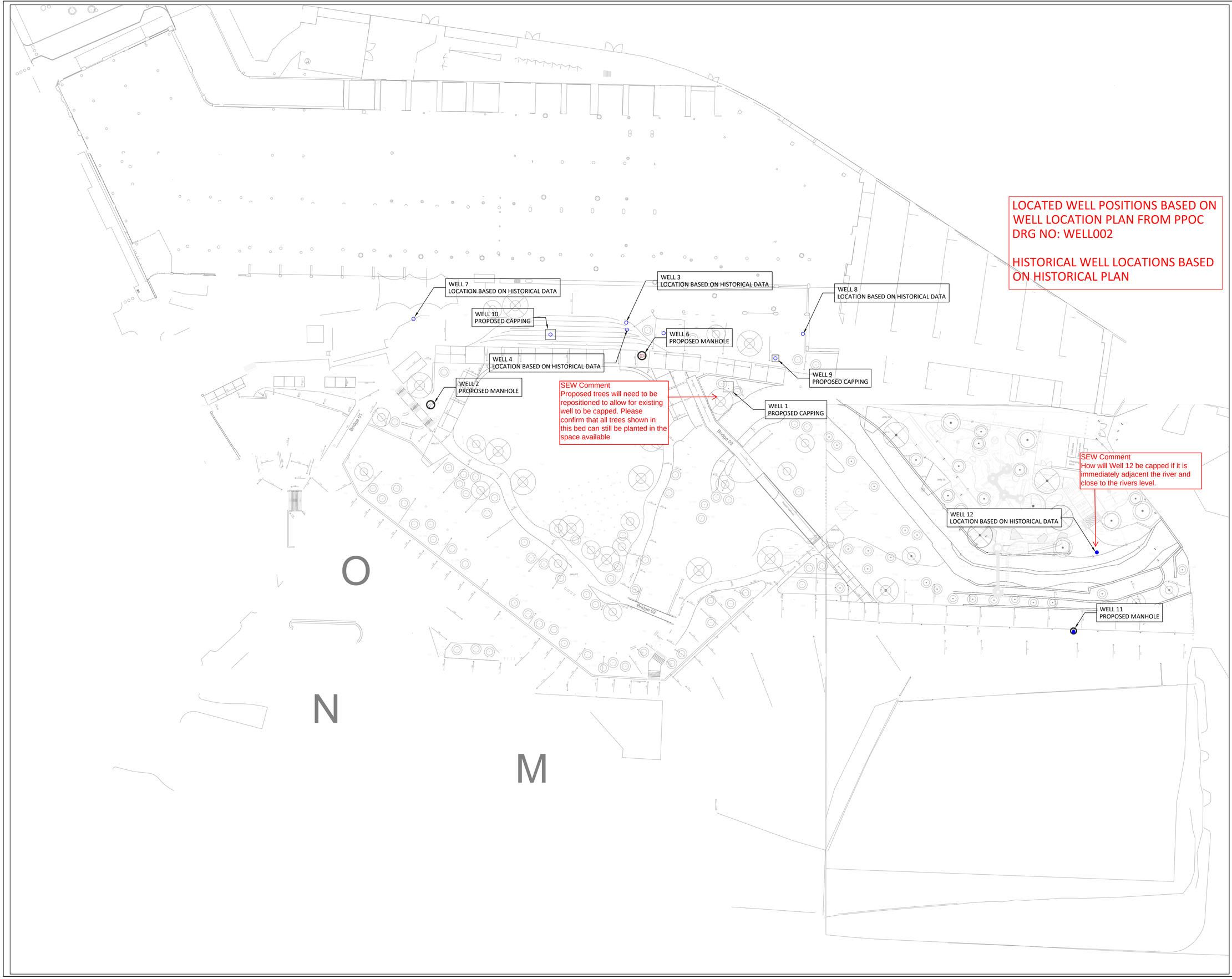
Title: Well 9 and 10 Capping

Status: APPROVAL

Project Number	Scale @ A3	Date Created	Drawn	Checked
1076-14	NTS	14.4.21	LH	RD

Drawing Number: 1076-14-CIV-XX-EW-DR-S-300
Revision: P01

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LOCATED WELL POSITIONS BASED ON WELL LOCATION PLAN FROM PPOC DRG NO: WELL002

HISTORICAL WELL LOCATIONS BASED ON HISTORICAL PLAN

Standard Notes

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.
2. This drawing should not be scaled.
3. All dimensions are to be verified by the contractor on site.
4. All discrepancies should be reported to the C.A. prior to the commencement of the works.

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Notes and Keys

SEE DRAWING MAY101-WSC-EXT-CIV-DR-7060-0200 FOR MANHOLE CONSTRUCTION DETAILS

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Status (A/B/C): B

Date Received: 30/07/2021

Date Returned: 12/08/2021

Date	Rev	Description	Drawn	Chkd
30.07.21	A	ISSUED FOR CONSTRUCTION	CD	CK
29.07.21	S4.1	WELL LOCATIONS ADDED	CD	CK
07.07.21	S4	ISSUED FOR APPROVAL	CD	CK
24.06.21	S3-01	WELL LOCATIONS AMENDED TO PPOC PLAN	CD	CK
04.06.21	S3	ISSUED FOR REVIEW	CD	CK

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Project
MAYFIELD PARK

Title
WELL LOCATION PLAN

Status
STAGE 5

Project Number	Scale @ A1	Date Created	Drawn	Checked	Suitability
1076-13	1:500	27.05.21	CD	CK	----

Drawing Number
MAY101-WSC-EXT-CIV-DR-7060-0200

Revision
A

APPENDIX XIII
UXO METHOD STATEMENT

PLANIT RESTORING BALANCE	**Project Name:** Mayfield	**Client Name:** PP O'Connor
	Location of Works: Mayfield Plots M-N-O, Manchester, M1 2QF	**Date of Works:** 09/11/20

Risk Assessment:

SUPPORT TO SITE INVESTIGATION

Task Description:

- **Visual, surface inspection of target areas.**
- **Marking out positions.**
- **Non-intrusive magnetometer survey of Trial pits/window samples/boreholes.**
- **Intrusive down borehole magnetometry.**

ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
EO Support to Site Investigation	All	Infected by the Covid19 Virus whilst traveling to and from work or while at work	4	5	**20**	• If it is not possible to work from home, Travel to and from work in own vehicle with no passengers. • Discuss the site Covid19 working arrangements with the site manager before work commences. • Always comply with the Govt advice on social distancing while working. • Wash hands frequently with soap and water for at least 20sec or use alcohol-based sanitiser.	2	4	**8**

ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
						• Only use site welfare facilities if the Govt advice on social distancing can be maintained, and handwashing/sanitising is available. • handwashing/sanitising is available. • Be aware of surfaces or items other site personnel have touched and avoid them or sanitise. • Be aware of the Covid19 signs and symptoms, and act according to Government guidance if you suspect you or anyone else on site has the symptoms.			
Visual Surface inspection over uneven ground, ensuring adequate access is available to site.	Planit Technicians	Environmental factors, Slip, trips & falls	3	3	**9**	• Correct footwear to be worn. • Client to give safe access/egress to site and improve ground conditions where appropriate.	2	2	**4**
Visual inspection of area for EO	As above	Handling suspected EO	3	5	**15**	• Constant monitoring by supervisor. • Suspected EO only handled once confirmed safe to move by appropriately trained technicians. • Appropriate safety distance to be adhered to while handling suspected EO. • Technicians to receive refresher training at appropriate intervals. • Once positively identified EO/UXO & Scrap may to be cached in a suitable lockable container.	1	5	**5**
Marking out and recording areas	As above	Physical exertion	2	3	**6**	• Materials to be located close to the work site. • Breaks to be taken where appropriate. • Weather/terrain conditions to be considered.	2	2	**4**

ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
Setting out area, moving loads	As above	Incorrect manual handling techniques	3	4	**12**	• Technicians to receive training in manual handling techniques and to be adequately supervised. • Refresher training to be given where needed or when the job changes.	2	3	**6**
Setting out area, moving loads	As above	Weight and size of load is excessive leading to back, arm injuries etc.	3	4	**12**	• Reduce weight of load where possible by breaking it down. • The use of more than one person to move the load if social distancing can be maintained	2	2	**4**
Setting out area, moving loads	As above	Some technicians may have health conditions that affect their capacity to move or lift loads, leading to injuries.	3	4	**12**	• Sufficient information to be provided on the tasks that such technicians are given. • Working practices for technicians who may have physical weaknesses or disabilities to be reviewed	2	2	**4**
Setting out area, moving loads	As above	Moving loads repetitively leading to muscular injuries	3	4	**12**	• Working practices to be reviewed to reduce repetitive handling of loads. • Allowance made for adequate rest breaks or changes in tasks. • Mechanisation of the task to be considered.	2	2	**4**
Setting out area, moving loads	All	Falling loads leading to bodily injuries	3	4	**12**	• Loads should be stable and secured where necessary to mechanical aids. • Suitable personal protective equipment to be worn, e.g. safety boots/shoes, gloves, etc.	2	3	**6**
Marking out/positioning Borehole rig	Planit Technicians	Environmental factors, Slip, trips & falls, weight restrictions for borehole rig	3	3	**9**	• Correct footwear & PPE to be worn. • Client to give safe access/egress to site and improve ground conditions where appropriate. Piling area to be well drained and piling debris kept under control. • Magnetometer lead to be always kept coiled when not in use.	2	2	

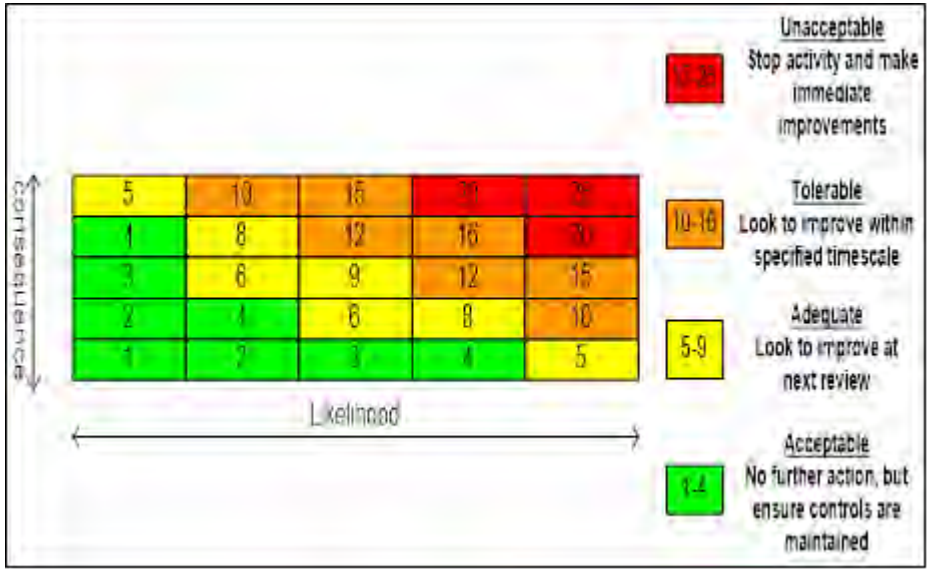
ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
						• Rig specifications are communicated to Client to allow safe access. • All test position boxes are initially surveyed from the surface using single probe magnetometer, this may not be effective if the made ground is heavily contaminated with ferrous objects. The survey data will be used to mark a ferrous free position for the borehole to be started. • If the surface survey is not effective due to ferrous contamination the borehole position should be moved by the client or the made ground hand dug.			
Use of hand tools, Hammers	Planit Technicians	Use of hammers with loose heads can lead to impact injuries	2	3	**6**	• Hammer shafts to be in good condition and hammer head is securely fixed. • Periodic hand tool checks to be carried out and faulty or damaged items to be replaced. • If damaged do not use and replace.	2	2	**4**
Use of hand tools, screwdrivers & pliers	As Above	Using an incorrect or damaged tool may cause it to slip leading to cuts, bruising or piercing injuries	2	3	**6**	• The correct type and size of tool for the task in hand to be chosen. • Periodic hand tool checks to be carried out and faulty or damaged items to be replaced. • The correct type of screwdriver for the job to be chosen, e.g. using a Posi drive head for a Posi drive screw as opposed to a Philips head.	2	2	**4**
Use of single probe Magnetometer to survey target positions	As Above	Incorrect manual handling techniques & Magnetometry limitations	2	3	**6**	• Technicians to receive training in manual handling techniques and use of magnetometer sling. • Magnetometry identifies objects that have a ferrous content. There are items EO that are not manufactured with ferrous material, ie of Bakelite and Aluminium spelter & Glass construction. These items are typically found	2	2	**4**

ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
						on or near the surface and close to military training areas or munitions storage facilities, they cannot be detected by magnetometry. • Magnetometry may not be effective in areas where large ferrous items are present in the survey area, close proximity or where the made ground is grossly contaminated with ferrous items. This type of ferrous contamination may present inconsistencies while evaluating the survey data and or reduce the survey penetration depth for these areas. In these cases, ferrous contamination remediation measure should be put in place before the survey takes place or alternative EO mitigation strategies should be considered. • Regular breaks to be taken when appropriate to the terrain and weather conditions. • Care to be taken will using and storing probe on site to prevent damage. • Correct footwear to be worn. • Client to give safe access/egress to site and improve ground conditions where appropriate.			
Setting up rig over borehole position	All	Unhitching and erecting borehole rig on uneven ground	4	4	**16**	• Client to give safe access/egress to site and improve ground conditions where appropriate. • Rig operator to be suitably qualified to erect and operate the rig safely. • Rig to be tested before borehole operations commence. • No personnel are to be allowed to approach the tripod while testing takes place.	2	3	**6**
Down bore hole testing	Planit Technicians	Working near piling rig, noise, falling	3	4	**12**	• Correct PPE including ear defence to be worn.	2	3	**6**

ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
		equipment/rig collapse.				• Test only to be carried out when pile rig equipment is secured with no danger of being hit by equipment from above. • Rig operator to be suitably qualified to erect and operate the rig safely. • No personnel are to be allowed to approach the tripod while borehole operations are in progress. • The EO technician must not be under or in the vicinity of the Borehole rig while it is being moved, set up or operated.			
Down bore hole testing	As Above	Housekeeping slips trips & falls. Poor conditions under foot due to piling operations.	2	3	**6**	• Suitable footwear to be worn, piling area to be well drained and piling debris kept under control. • Magnetometer lead to be always kept coiled when not in use.	2	2	**4**
Operating Borehole rig	All	Testing without plans for buried services may cause damage to gas, water mains and electric cables and injury to personnel	4	4	**16**	• Service plans from the utility companies/site operator should be obtained and service routes clearly marked out. • Where the presence of electricity cables/services is suspected, the Client is to check and mark up the site with Cable Avoidance Tool (CAT). • No testing is to take place within 2m of live services. If the live services have been exposed by the Client, the risk and safety distance may be re-assessed. • No testing to take place until “Permit to Dig” has been issued.	2	2	**4**
Down borehole testing	All	Ground conditions/ferrous contamination effecting survey data	2	3	**6**	• A non-ferrous sheath to prevent shaft collapse will be advanced in 1-2m increments by the borehole rig. In firm ground, the ferrous sheath	2	2	**4**

ACTIVITY	PERSON AT RISK	SIGNIFICANT HAZARDS	RISK			RISK CONTROL MEASURES	RESIDUAL RISK		
			L	S	R		L	S	RR
						must be retracted by at least 2m as to not interfere with the magnetometer survey. • Only once the bore has been retracted and lowered to the ground can the single probe magnetometer attached to a down borehole cable will be lowered into the shaft.			
Down bore hole testing	All	Large magnetic anomaly detected immediately below the magnetometer	2	3	**6**	• The Planit technician will stop the borehole testing. • The borehole rig will not continue testing beyond the large anomaly depth until the Planit Technician has analysed the anomaly to determine if it is directly below the borehole. • Planit technician will advise on appropriate action to be taken. In most cases this will be to move the borehole position if a large anomaly is directly below the borehole or its proximity to the borehole cannot be accurately determined.	2	2	**4**

Likelihood	Severity (Consequence)
1 -Very Unlikely - there's a 1 in a million chance of the hazardous event happening	1 - Insignificant - No Injury
2 - Unlikely - there's a 1 in 100,000 chance of the hazardous events occurring	2 - Minor - Minor injuries needing first aid
3 - Fairly Unlikely - there's a 1 in 10,000 chance of the hazardous event happening	3 - Moderate - up to 3 days absence
4 - Likely - there's a 1 in 1,000 chance of the hazardous event happening	4 - Major - More than 7 days absence
5 - Very Likely - there's a 1 in 100 chance of the hazardous event happening	5 - Catastrophic - Death



Comments/ Significant issues:

Only trained, competent and inducted technicians are to carry out work on site. The work site is to be constantly monitored by the technician.

Appropriate PPE including Non-Magnetic boots are always to be worn in accordance with Planit SOP's and Clients site induction. It is essential that head protection is worn while working near the rig.

A safety/EO brief will be conducted by the technician prior to work starting each day or if circumstance on the site change.

Always maintain social distancing while traveling and working. Frequent hand washing, social separation within the govt guidelines, obey all site and govt guidelines/updates.

Assessment Completed by	Signature	Position	Date Produced	Review Date
A Hamilton		Safety Manager	03/12/20	06/01/21

SAFETY METHOD STATEMENT

Project Name: Mayfield	**Client Name:** PP O'Connor
Location of Project: Mayfield Plots M-N-O, Manchester, M1 2QF	**Date of Works**: 09/11/20

Activity

SUPPORT TO SITE INVESTIGATION

Task Description

- **Inductions/Briefings/Covid 19 working arrangements.**
- **Visual, surface inspection of target areas.**
- **Marking out positions.**
- **Non-intrusive magnetometer survey of Trial pits/window samples/boreholes.**
- **Intrusive down borehole magnetometry.**

SCOPE OF WORKS:

Time Duration: Approx 2 working days

Working Hours: 0800-1600

Site Specific Conditions: Reasonable conditions underfoot, any issues will be resolved with the use of plant equipment.

Sequence of events:

Ser	Activity	Method
1	Pre-Start Procedures	• Ensure that the area of concern is clearly defined and marked, where possible public access restrict to the area by the Client. • Set up and Inspection/calibration of all survey equipment, and tools. • Service drawing where available to be consulted, large ferrous items to be removed by Client or survey area to be adjusted. • Covid 19 working arrangements discussed with Client, Site inductions/daily start/EO briefings carried out and permits to dig issued where appropriate.
2	Visual EO Inspection	• While obeying Social distancing rules, Technicians to walk the ground to be Surveyed looking for the presence of surface EO/UXO/UXO scrap or ferrous items. • EO scrap/ferrous items to be removed from Survey area for later disposal.
3	Marking out Survey lanes/boxes	• The boxes/positions are marked on the ground using either marker paint or wooden stakes. • Where wooden stakes are driven into the ground, these

		positions should be non-intrusively surveyed beforehand by a Hand-Held Magnetometer. • Boxes/positions should be labeled & numbered and recorded on the map/plan this especially important where large areas are surveyed. If available DGPS may be used to mark positions. • Window sampling/trial pits should ordinarily be marked out with paint 2mx2m or 4mx4m respectively. Boreholes should be marked and labeled. • Confirm positions with Client and if applicable the order in which the survey positions should be investigated. • Ensure any remedial works to facilitate the survey are carried out by the Client in a timely manner. • Ensure other site activities and terrain/weather will not affect the survey work.
4	Non – Intrusive Survey utilising Hand-Held Magnetometer.	• A single probe magnetometer may be used for window sampling/trial pits/borehole position. • Magnetometry identifies objects that have a ferrous content. There are items EO that are not manufactured with ferrous material, ie of Bakelite and Aluminum spelter & Glass construction. These items are typically found on or near the surface and close to military training areas or munitions storage facilities, they cannot be detected by magnetometry. • The technicians must ensure the Magnetometer covers the full extent of the area to be surveyed, the Magnetometer should be employed at a steady pace and consistent height form ground level. • Magnetometry may not be effective in areas where large ferrous items are present in the survey area, close proximity or where the made ground is grossly contaminated with ferrous items. This type of ferrous contamination may present inconsistencies while evaluating the survey data and or reduce the survey penetration depth for these areas. In these cases, ferrous contamination remediation measure should be put in place before the survey takes place or alternative EO mitigation strategies should be considered. • Surveyed data should be downloaded at relevant intervals or when boxes/positions have been completed. • Recorded data should be labeled in sequence with the box/position numbers on the ground to allow accurate data analysis and anomaly/target acquisition. • Any large magnetic anomalies within the surveyed area should be investigated in conjunction with the Clients available plant or the survey position moved to a clear area with permission of the Client.
5	Setting up and positioning Borehole rig.	• Where applicable Working/Storage area to be delineated. • A banksman is used to assist with the maneuvering and positioning of the rig. • If required Materials, spare rods etc to be located close to the work area. • Rig to be positioned over the test position, the rig must be levelled to ensure a vertical test is achieved. • No testing is to take place within 2m of live services. If the live services have been exposed by the Client, the risk and safety distance may be re-assessed.
6	Setting up Down Borehole magnetometer.	• All test position boxes are initially surveyed from the surface using single probe magnetometer, this may not be effective if the made ground is heavily contaminated with ferrous objects. The survey data is used to mark a ferrous free position for the borehole to be started. • If the surface survey is not effective due to ferrous

		contamination the borehole position should be moved by the client or the made ground hand dug. • Magnetometry identifies objects that have a ferrous content. There are items EO that are not manufactured with ferrous material, ie of Bakelite, Aluminum spelter or Glass construction. These items are typically found on or near the surface and close to military training areas or munitions storage facilities, they cannot be detected by magnetometry. • Down borehole cable attached to single probe, care to be taken when attaching to ensure the probe is waterproofed and not cross threaded. • An additional tension line should be attached along the cable to ensure the cable is not under undue strain while being lowered/recovered from borehole. • The down borehole cable is always to be kept coiled to reduce the chance of accidental damage and stored correctly when not in use.
7	Operating the Down Bore Hole Magnetometer.	• A non-ferrous sheath to prevent shaft collapse will be advanced in 1-2m increments by the borehole rig. In firm ground, the ferrous sheath must be retracted by at least 2m as to not interfere with the magnetometer survey. • Once the bore has been retracted and lowered to the ground the single probe magnetometer attached to a down borehole cable will be lowered into the shaft. • The down borehole magnetometer will survey 1-2m forward to allow the borehole rig to advance a further 1-2m. This process is repeated until the desired depth is achieved. • On detection of a potential EO by the down borehole probe, the EO Technician will advise on the appropriate course of action. Magnetometer data will be interpreted by a senior EO technician to allow possible additional investigation. • Once the required depth is reached the bore is withdrawn and the hole plugged on the surface. • The Borehole rig will then be moved to the next test position and the above sequence repeated. • The EO technician must not be under or in the vicinity of the Borehole rig while it is being moved, set up or operated.
8	On-going Monitoring.	• The technician will constantly monitor all work activities to ensure compliance with all health & safety directives/ procedures and Govt Covid 19 working arrangements. • The technician must ensure the accuracy of survey and date recording, complete all PLANIT documentation where appropriate. • The technician must liaise with the Client to ensure clear access to the surveying area is available when required and third parties do not interfere with the ongoing works.

RESOURCES

Position	Name	EO Qualification	First Aid Trained	Supervision	Skill Card
Project Manager	D Whelan	Yes	Yes	N/A	CSCS
Safety Manager	A Hamilton	Yes	Yes	N/A	CSCS
Site Supervisor	A Beaumont	Yes	Yes	SSSTS	CSCS
Site Supervisor	K Whelan	Yes	Yes	SSSTS	CSCS
Site Supervisor	A Barrowcliffe	Yes	Yes	SSSTS	CSCS

SPECIALIST QUALIFICATIONS/TRAINING

Position	Name	Specialist Qualification	Skill Card
Mechanical Excavator Operator	TBC	Yes	Yes
Rig Operator	TBC	Yes	Yes

PLANT AND EQUIPMENT

Item	Quantity	Checked
Single Probe Magnetometer	1	Yes
DGPS	0	N/A
Down Borehole Cable	1	Yes
Borehole Rig	1	Yes

WELFARE FACILITIES

ITEM	Quantity	Checked
Provided by Client with Covid 19 arrangements in place	One	Yes

ASSESSMENT OF SIGNIFICANT RISK

Access/Egress - By public roads.

Lighting – Ambient day light, no night working for trail pits/window samples. Client to provide lighting for Down Borehole night work.

Adverse weather – Weather does not affect detection equipment, plant may become waterlogged where work will stop.

Covid19 – Comply with all Govt and site Covid19 travel/working/welfare arrangements.

HAZARDOUS ACTIVITIES

Possible Hazardous Activity	During this project	Permit Required
Suspected Explosive Ordnance	Yes	No
Excavations	Yes	Yes
Buried Services	Yes	No
Vehicle/Plant Movement	Yes	No
Borehole Rig	Yes	No
Working Near Water	No	No

CONTROL MEASURES

SITE SPECIFIC RISK ASSESSMENTS:

Activity	Risk Assessment	Date	Checked
SUPPORT TO SITE INVESTIGATION	Yes	03/11/20	Yes

SECURITY MEASURES - As appropriate to site conditions.

MANDATORY PERSONAL PROTECTIVE EQUIPMENT

PPE	Required	Issued	Checked
Head Protection	Yes	Yes	Yes
Foot Protection	Yes	Yes	Yes
Hand Protection	Yes	Yes	Yes
Eye Protection	Yes	Yes	Yes
Hearing Protection	Yes	Yes	Yes
High Visibility	Yes	Yes	Yes
Covid19	No specific PPE	N/A	N/A

EMERGENCY ARRANGEMENTS

Fire – Vehicle extinguishers, 999 for larger fires

First Aid – First Aid kit located in Welfare Unit, First Aid by Site Supervisor. (First Aid kit with PLANIT vehicle)

Hospital – 999 for suspected Covid 19 symptoms and follow Govt guidelines.

Accidents – All accidents to be recorded, Client & PLANIT Safety Advisor to be informed and appropriate action taken

ENVIRONMENTAL ISSUES (Prevent, Reduce, Re-Use, Recycle, Disposal)

Spillage Response Plan – N/A Spill kit - ~~Yes~~/No Checked - ~~Yes~~/No

WASTE DISPOSAL/STORAGE ARRANGEMENTS

COSHH – N/A

Inactive Waste – N/A

Hazardous Waste – N/A

Domestic Waste – All waste produced by PLANIT must be removed from site and disposed of correctly.

ADVERSE WEATHER PLAN – Welfare unit supplied for shelter during inclement weather

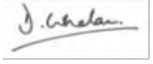
MONITORING AND COMPLIANCE

Site Inspections frequency – Daily by Site Supervisor, Periodic by Safety Advisor when required.

Operatives briefing – On Induction and daily thereafter.

SAFETY METHOD STATEMENT COMPLETED BY

Name: A Hamilton Position: Safety Manager Date: 03/11/20 Signature: 

Distribution	Date	Agreed	Signature
Project Manager: D Whelan	03/11/20	Yes/~~No~~	
Principal Contractor/Client:		Yes/No	



EXPLOSIVE ORDNANCE (EO) THREAT ASSESSMENT (EOTA)

MAYFIELD DEPOT, FAIRFIELD STREET, MANCHESTER, M1 2QF

This assessment draws together all the available information with regards to the site of concern regarding potential Explosive Ordnance (EO) Contamination. It assigns an Explosive Ordnance Threat Level and proposes an appropriate Risk Management Strategy to reduce any associated risks.

This assessment has been produced in compliance with the Construction Industry Research and Information Association guidelines (Report CIRIA 681, dated Dec 08) for the preparation of detailed Risk Assessments in the management of UXO risks in the construction industry, for which PLANIT was an instrumental driver for improved UXO risk management and transparency.

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POC:	George Mitchell, Ground Engineer
Email:	George.Mitchell@BuroHappold.com

OUR CONTACT DETAILS

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Peer Review:	Andrew HAMILTON	

EXECUTIVE SUMMARY

SITE DESCRIPTION

The site is located approximately 1.5km east of Manchester city centre and the Exhibition Centre, immediately south of Piccadilly Station. The site is loosely bounded by the main line railway running east to west forming the northern boundary of the site, to the west London Road runs north to south and the site's southern boundary is formed by the A635 (M) leading into Mancunian Way.

National Grid Reference for the approximate centre of the site is **SJ 851 976** and the nearest postcode is **M1 2QF**.

POTENTIAL THREAT SOURCE

The following items of explosive ordnance are thought to remain as potential threat sources to ongoing engineering operations at the site of concern:

- WW2 German air-dropped bombs – High Explosive (HE).
- British Anti-Aircraft Artillery (AAA) projectiles.

THREAT PATHWAY

For the purposes of this assessment, it has been assumed that development works would include piled foundations and excavations beyond WW2 ground levels. It is anticipated that personnel or key equipment may complete the risk pathway during excavation and/or piling operations that may bring them into physical contact with potential threat items.

KEY FINDINGS

There is incontrovertible evidence that the site of concern was directly affected by aerial bombing during WW2. The possibility that the site was affected by Anti-Aircraft Artillery projectiles returning to earth unexploded cannot be reasonably ignored.

- There is no evidence to suggest that other ordnance contamination events occurred at the site of concern.
- There are no Abandoned Bombs or UXBs recorded that would affect the site of concern directly.
- The EO Threat varies across the site of concern.

THREAT LEVEL

The following Ordnance Threat Levels apply:

Ordnance Type	Threat Level
50, 250, 500 and 1,000kg bombs, British AAA projectiles	MEDIUM

THREAT MITIGATION

Considering the findings of this assessment, a **UXO THREAT MITIGATION STRATEGY IS REQUIRED** to be in place prior to intrusive engineering works at this site of concern.

THREAT REVIEW

A review of these recommendations must be undertaken considering any additional, relevant information being provided. Such a review may, if the EO Threat Level is deemed to have altered, make alternative recommendations from those made above to implement work safely.

AIM & METHODOLOGY

The aim of this assessment is to identify any threats that may be posed by EO during the proposed engineering works at the site of concern and, where a threat is identified, to recommend a risk mitigation strategy that will reduce this threat to acceptable levels.

This assessment follows the CIRIA 681 Guidelines, which were compiled using, as a main driver of change, PLANIT's innovative approach to EO risk assessment.

The following key considerations are addressed in this assessment:

- The risk that the site of concern was contaminated by EO.
- The risk that EO remains on site.
- The risk that EO may be encountered during the proposed engineering works.
- The risk that EO may be initiated by proposed engineering works.
- The consequences of encountering or initiating EO.

If the likelihood of encountering EO is significant, information about the types and natures of that EO and the expected levels of contamination is considered within the source-pathway-receptor context of contamination. Should a confirmed pathway exist, the information enters our proprietary Threat Assessment Matrices in order to arrive at a valid and transparent Threat Level.

The Threat Level allows relevant conclusions to be made about the EO Risk at the site of concern, which in turn allows an appropriate Risk Mitigation Strategy to be developed.
The Threat Mitigation Strategy is intended to give the Client a best-fit, safe solution that will allow the level of risk from EO to be reduced to an acceptable level; providing maximum project planning flexibility.

PLANITs approach to EO threat assessment has been fundamental in driving change throughout the UK Commercial EOD Industry and was instrumental in the drafting of CIRIA 681. PLANITs approach provides transparency to our EO risk assessment process allowing the Client to make valid decisions on what is a specialist activity; empowering them to maintain control over this vital aspect of their project - Where necessary, appropriate EO risk mitigation measures will be recommended.

This assessment considers general and site-specific factors, including:

- Historical use of the site in relation to ordnance manufacturing, storage and disposal.
- Historical use of the site in relation to Military training and related facilities.
- Evidence of offensive aerial and naval bombardment during WW1 and WW2.
- Evidence of Unexploded Bombs (UXBs).
- Previous EO incidents and/or EO survey/clearance activities.
- Extent of post-war redevelopment.
- Proposed engineering works.

RELIABILITY OF HISTORICAL RECORDS

This assessment is drawn from detailed research into the available historical evidence. Every effort is made to gather all the relevant material; however, PLANIT cannot be held responsible for any changes to the assessed level of risk or proposed risk mitigation strategies due to subsequent information that may come to light at a later date.

The accuracy and detail of wartime historical records is difficult to verify, not least of which is due to the conditions under which much of this information was gathered and recorded. Additionally, recording of information was less formalised in the early days of the German air campaign against the UK mainland (Pre-Bomb Census Record) and much information recorded early on was lost during subsequent air raids. Records for rural, sparsely populated areas are not always reliable, being based on second-hand information in many cases; records of attacks on military installations was often recorded independently from general records and many such archives have been lost or remain undisclosed to the public.

Consequently, the exact location, quantity and nature of the EO threat cannot be definitive but rather remains subjective and is based on the careful analysis by experts of the available information. PLANIT cannot accept liability for any gaps in the historical record.

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SITE LOCATION & DESCRIPTION

SITE OF CONCERN

The site is located approximately 1.5km east of Manchester city centre and the Exhibition Centre, immediately south of Piccadilly Station. The site is loosely bounded by the main line railway running east to west forming the northern boundary of the site, to the west London Road runs north to south and the site's southern boundary is formed by the A635 (M) leading into Mancunian Way.

National Grid Reference for the approximate centre of the site is **SJ 851 976** and the nearest postcode is **M1 2QF**.



The site is dominated by a multitude of large, multi-storey industrial buildings with large areas of hard standing for vehicle manoeuvre, parking and material storage associated with the Goods Yard supporting Piccadilly Station. Small, isolated areas of scrub/ grass with shrubs and small trees are dotted across the site area.

Maps showing the site location and layout are at Annex A.

SCOPE OF PROPOSED WORKS

The details of the proposed development are unknown at the time of writing this assessment.

For the purposes of this assessment, it has been assumed that development works could include intrusive engineering beyond WW2 ground levels. It is anticipated that personnel or key equipment may complete the risk pathway during excavation and/or piling operations that may bring them into physical contact with potential threat items.

GEOLOGICAL ENVIRONMENT

The available geological information (Ref 2) shows the site to be underlain by superficial deposits in the form of Late Glacial Flood Gravels. This masks the solid geology beneath the site which comprises the Bunter Sandstone strata of the Triassic Period.

According to the, "Factual Ground Investigation and test report for redevelopment of land to the south of Manchester Piccadilly Railway Station, Manchester", by Buro Happold, dated 8 Oct 09, the specific ground conditions are:

Strata	Depth (m)	Thickness (m)
Made Ground: Turf on gravelly sand with cobbles, brick and concrete. Tarmac in places over concerete.	0.80	0.80
Soft to firm very sandy gravelly friable clay.	1.90	1.30
Orange brown silty fine to medium sand.	3.20	Not proven

REVIEW OF RELEVANT DATASETS

SOURCES OF INFORMATION

PLANIT ensures that Explosive Ordnance Risk Assessments (EORAs) are as comprehensive as possible and detailed research is undertaken to collate all the available EO-related information that relates to the site of concern. Information sources may include, but are not restricted to:

- National Historic Archives.
- Local Authority & Council Archives.
- English Heritage National Monuments Record.
- Ministry of Defence Archives.
- PLANITs extensive archives drawn from many years of detailed research and operational experience of UXO Risk Management activities in the UK and abroad.
- Joint Service EOD Centre (JSEOD).
- Historic Mapping and Aerial Photography.
- Specific UXO-related documents such as military bombing and casualty records.
- Local libraries and history groups.
- Open sources such as published books and internet searches.
- Anecdotal evidence from eye witnesses.

NB: The MoD information office that deals with requests for information relevant to EO clearance operations completed by the MoD is currently facing significant delays. Although a request has been submitted, any information that may be relevant has not yet been forwarded for timely inclusion in this assessment. However, if any relevant information comes to light from this source that affects the threat assessment, this will be notified to the client as a matter of urgency.

SITE HISTORY

Up to **1905**, the site was occupied by what appear to be residential houses but by **1923** they have been cleared to make way for Mayfield Station which is now dominating the northern part of the site. The site layout is constant until the map record of **1956,** which shows cleared areas more than likely because of bomb damage during WW2. Mayfield Station itself has been reduced by half and there are other clear areas of bob damage across large areas of the site. There is also a notable addition to the site area in this map sheet which is the addition of a large structure, built immediately post-War, in the centre of the site.

By **1968**, Mayfield Goods Station has been fully restored and other previously cleared areas of the site have been redeveloped. This work appears to be complete with the addition of some small buildings to the western edge of the site area by **1985**. This site layout remains constant until at least **2010** but by **2013**, the Goods Station roof has been removed.

ORDNANCE MANUFACTURE & STORAGE

During WW1 and WW2, Lincolnshire housed many facilities involved in the manufacture, storage, filling and testing ordnance. The nearest explosive manufacturing sites (known as His Majesty's Explosive Filling Factories (HMEFs)) were:

	• Trafford Park (HMEF). • Hyde Road, Gorton, Manchester (National Shell Factory – manufacturing 4.5" shell (projectile) casings). The nearest Royal Ordnance Facilities (ROFs) established in the run up to WW2 were: • ROF Chorley. • ROF Radway Green. None of these sites would have posed a potential threat to the site of concern.
MILITARY HISTORY	There is no evidence to indicate that the site was ever used for military purposes.
CIVIL DEFENCE	Manchester possessed a peak of 56 Heavy Anti-Aircraft Batteries during WW2, including 4.5, 3.7 and 3-inch Anti-Aircraft (AA) guns, sited in some 70 separate locations. None of these were sited on or near to the site of concern to have created a direct source of potential ordnance contamination. Due to the relatively high failure rate of Anti-Aircraft Ammunition (AAA) during this time, there remains the possibility that such ordnance fell back to earth creating additional UXO hazards. This type of ordnance had the potential to penetrate the ground to significant depths and cannot be entirely discounted as a potential threat source although its potential presence is impossible to determine with any quantifiable degree of certainty. As would be expected, Manchester had several Civil Defence ('Starfish') sites designed to protect London from aerial attack. Manchester's Starfish Sites were located at: • Chat Moss. • Tatton Park. • Park Moor (now in Lyme Park Country Park). • Churnal Moor. • Mossley. • Carrington Moss. • Ludworth Moor. • Reddish. • Elkstone (north Staffordshire). None of these sites would indicate the possibility that erroneous Luftwaffe bombing would have produced a consequent UXO risk on the site of concern.
WW1	Greater Manchester suffered two aerial bombardments during WW1; on 26 Sep 1916 Zeppelin L21 dropped 20 HE bombs on Bolton, mistaking the town for Derby. Significant damage was caused and 13 people were killed. On 12 Apr 1918 Zeppelin L61 bombed Wigan at 2300hrs in a raid that lasted some 12 minutes. Three people were killed and a further nine were injured during the raid. Neither of these raids would have affected the Site of concern and therefore the risk from WW1 unexploded ordnance is negligible.
WW2	During WWII, the site sat close to several industrial and strategic installations key to the war effort that were located in the area – including Mills, Quarries and Railway infrastructure. Luftwaffe target maps do not list specific locations on or close to the site although the concept of specific targets, when bombing in and around Manchester, was only relevant prior to the accidental Luftwaffe raid on London on 24th Aug 1940. This attack broke the unofficial agreement not to bomb opposing capitals and led to the gradual breakdown of the Amsterdam draft international rules prohibiting the attacking of civilian infrastructure outside of combat zones

(purely industrial areas); Great Britain, including Manchester, was now opened to air attacks. As well as the air raids targeting Manchester itself, unused bombs were routinely jettisoned whilst returning to base following an unsuccessful raid. In addition, the high-altitude area bombing during this period was notoriously inaccurate with areas surrounding specific targets suffering during attacks on the targets themselves.

The site in question sits in the middle of the main areas within Manchester that were targeted, mostly during the 'Manchester Blitz' of Dec 22-24 1940 - Salford Docks, Manchester's industrial centre and Trafford Park (with the areas surrounding them also being affected by the same air raids). Many Manchester companies were involved in war production work including the Fairey Aviation plant at Ringway, the Ferranti factory at Hollingwood, Metropolitan Vickers works at Trafford Park and the A.V. Roe (Avro) plant at Chadderton. In addition, Ford operated a factory in Eccles building Rolls Royce Merlin engines for the Lancaster bomber and the Mosquito fighter bomber.

The Luftwaffe mounted consecutive heavy attacks on the Manchester area on the nights of 22/23rd and 23/24th Dec 1940. Large areas of Manchester, Salford and Stretford were devastated, killing some 684 people and injuring a further 2,364. The first raid of this 'Manchester Blitz' saw 272 tons of HE bombs and 1, 023 canisters of Incendiary Bombs (IBs) dropped. During the second raid, 171 aircraft dropped a further 195 tons of HE bombs and 893 canisters of IBs.

The site is in Region 10 (Manchester) for Civil Defence purposes. Manchester received some 3, 465 Tonnes of HE bombs throughout the war although Cheshire and Chester were much less affected:

Ordnance Type	Number of Bombs		
	Region 10	Cheshire	Chester Rural District
50Kg HE	1403 (79)* + 576 (1)**	594 (25)	1
250Kg HE	727 (49) + 368	301 (19)	13
500Kg HE	114 (7) + 57 (3)	58 (6)	10 (1)
1000Kg HE	2 (2) + 6	1 (1)	
Parachute Mine	514 (77) + 592	139 (16)	
V1 'Doodlebug'	14	6	1
V2 Long Range Rocket	0		
Small Incendiary Bombs	25 454	3 639	
50Kg Phosphorus Bomb	Unknown		
Fire Pots	Unknown		
Oil Bomb	212 (4) + 202	48 (1)	
Containers	Unknown		
Unclassified Ordnance	8 114 (1 341) + 10 658	2 806 (524)	

The bombs recorded as falling on the County Borough of Manchester are summarised below:

Area Acreage	27, 255
High explosive Bombs (All Types)	712
Parachute Mines	18
Oil Bombs	7
Phosphorus Bombs	-
V1 'Doodlbug'	1
Total	**738**
Items per 1000 acres	**27.1**

UNEXPLODED BOMBS (UXBs)

Between 1940 and 1945, Bomb Disposal (BD) Teams cleared over 50,000 items of German air-dropped ordnance of 50Kg or larger, 7 000 anti-aircraft (AA) projectiles and more than 30 000 beach mines – This work claimed the lives of 394 Officer's and men. The War Office at the time stated that over 200 000 HE bombs exploded in

Britain during WW2 with some 25 195 remaining a threat as UXBs i.e. 11%. Some 93% of all UXBs were 50Kg HE and 250Kg HE aerial bombs.

The types of ordnance discovered as UXBs give an indicator of the type of ordnance that may be encountered on or near the site of concern. In this instance, there are no records of UXBs that may present a threat to the site.

ABANDONED BOMBS

A post-air raid search of damaged buildings and facilities would have included a specific search for bomb entry holes. If such evidence was discovered, then BD Teams would have been tasked (in order of strict priority from Category A, the highest priority, to category D, the lowest) to assess the potential UXB and to recommend a course of action. For UXBs that were deemed to be a high enough priority were tackled by the BD Teams who made strenuous efforts to recover and dispose of these items. However, it was not always possible to recover such bombs either through physical constraints, a lack of resources or a change in priority. Such UXBs were noted as 'Abandoned'.

Due to the low priority of abandoned bombs, records that detail them are sketchy and sometimes contradictory. Others were subsequently recovered after the War when time and resources permitted and others remain 'abandoned'. It is worth remembering that 'abandoned' bombs may also include suspected UXBs that were reported but not confirmed, but simply efforts to locate the 'bomb' were exhausted.

The Abandoned Bombs recorded near the site are:

Reference/ Location	Item
CD 49.3822 – Fields 600yds SE of Grove Farm, Chorlton by Beckford.	1 x AA Shell
CD 53.3825 – Fiels near rear of Gun Site Acres Lane, Upton Heath.	1 x AA Shell
CD 56.3826 – Staok Grange Farm, Little Stanney.	1 x AA Shell
CD 84.3843 – Wood Farm, Grove Road, Mollington, 500yds W of Lee Holme.	1 x AA Shell
CD 82.3842 – 50yds W of Dunkirk Lane, Capenhurst Hall Park Farm, Capenhurst.	1 x AA Shell
CD 81.3841 – 100yds S of Pitts farm, Woodbank, Shotwick.	1 x AA Shell
CD 59.3827 – Shotwick Park, S of No. 9/10 Holding Arterial Road.	1 x AA Shell

None of these are considered to present a potential UXO-related threat.

BOMB CENSUS MAPS

Manchester's Bomb Census Records are comprehensive and indicate that several large, air-dropped bomb fell within the site itself with further bomb being suggested by the large-scale building clearances in the east of the site (See Annex C). Mayfield station directly suffered the effects of bombing during World War II, when it was hit by a parachute mine on 22 December 1940.

The relevant Bomb Census Map extract is at Annex B.

HISTORICAL STREEP MAPS

Historical street plans of the period are a useful indicator of whether an area may have suffered bomb damage. The street layout prior to WW2 is the 'start state' and major changes to street layouts or building boundaries may indicate that the change was due to bomb damage. In this instance, there are some significant changes to the street layout that probably indicate bomb damage within the site boundary and there is clear bomb damage in the wider area surrounding the site. Mayfield Station itself and the building complex immediately to the south have received direct bomb/ parachute mine strikes.

The relevant Historical Street Plans are at Annex C.

HISTORICAL AERIAL PHOTOGRAPHY	The same rational applies with historic aerial photography as it does when examining historical street plans – changes between pre-war and post-war images may indicate the possibility of damage caused by bombs falling on the site. Sometimes, detail is such that it allows bomb damage to be seen directly on sites of concern. In this instance, historical aerial photography from the period is not available and therefore no comparisons can be made.

THREAT ANALYSIS

IS THERE EVIDENCE THAT THE SITE WAS AFFECTED BY ANY EXPLOSIVE ORDNANCE CONTAMINATION EVENTS?	**Yes.** The historical record is acknowledged as being incomplete from a National perspective but there is clear evidence within the relevant extract from the Manchester Bomb Census Maps that the site of concern was directly affected by bombing during WW2; which included large air-dropped bombs and parachute mines and/or British anti-aircraft artillery falling back to earth as UXBs. Not much of the site area escaped unscathed, and there is clear evidence that the site did receive direct bomb strikes as well as widespread bomb blast damage. The bomb damage would have been significant and the possibility that another bomb fell on the same area and remained underground, undiscovered as a UXB must be considered plausible. It was also a common error to mistake the havoc wreaked by a large bomb falling through built structures unexploded, which is considerable, with a smaller bomb detonating as intended.
IF ENCOUNTERED, WHAT ORDNANCE TYPES ARE ANTICIPATED?	There is explicit evidence that the site received a number direct hits from large, air-dropped bombs/ parachute mines during WW2. Parachute mines, due to their nature, would have remained on the surface if unexploded and would have been dealt with at the time and can therefore be discounted as potential threat items today. There is no explicit evidence that the site directly received Anti-Personnel or incendiary bomb strikes. Whether the area received AAA returning to earth unexploded is impossible to answer but it would be prudent to accept the worst-case scenario in this case and accept that they probably did. The site is not known to have been used for ordnance manufacture or storage and neither was it a former Military installation. So, we can discount the possibility that the site was contaminated by ad hoc military activity. The type and degree of post-War redevelopment is significant in that it would reduce the encounter potential for smaller items of ordnance such as anti-personnel bombs or AAA projectiles to such a degree across the site that this potential threat source may effectively be discounted. This would not be the case for areas of the site that have not been significantly redeveloped since the end of the War or within ground volumes that have remained undisturbed by intrusive engineering since this time. The following potential threat items may remain under the site within 'at risk' ground volumes: • Large, air-dropped, German HE Bombs including 50, 250, 500kg bombs (of WW2 vintage). • British AAA projectiles.
WHAT IS THE EXPLOSIVE ORDNANCE / UXB ENCOUNTER DEPTH?	**Ministry of Homeland Defence Security Bomb Penetration Studies**. A major study was completed by the Ministry of Homeland Security during WW2, during which the penetration depths of 1328 air-dropped bombs (as reported by the BD Sections of the day and mostly in the Birmingham area). It was concluded, not surprisingly, that the penetration depths of different sized bombs varied according to the geology into which they fell. The average penetration depth of 430 x 50Kg HE bombs in London Clay was found to be 4.6m and that for a 250Kg bomb 6.1m. Also, they concluded that a 500Kg bomb, the largest common bomb dropped during the War, had a likely penetration depth of 6m in sand and 8.7m in clay – the maximum observed for a 500Kg was

10.2m and for a 1000Kg bomb was 12.7m. It should be remembered that these depths were achieved unencumbered by obstacles to penetration such as buildings, concrete and brickwork.

The 'J' Curve. The 'J-curve' describes the path of a bomb (dropped from a normal altitude of about 5 000m) into homogenous ground will continue its line of flight (unless deflected by a substantial obstacle) but then turn upwards towards the surface before it stops. The horizontal distance (the 'offset') between the point of entry and final resting position was typically 1/3 of the ultimate penetration depth for a bomb. Therefore, if a bomb fell close to the exterior of a building or site and did not explode, the path that the bomb subsequently travelled beneath the ground, the "J-Curve", may have delivered it beneath the building or site footprint. The J-curve is often misunderstood, and used to describe the path taken by a bomb dropped from low flying aircraft to which it should not be applied.

The final penetration depth of an air-dropped depends upon several factors; the velocity of the bomb (as a function of the mass, speed) – PLANIT uses a standard velocity of 267m/s for assessment purposes – the angle of penetration of the bomb and the physical features through which the bomb travelled prior to impact with the ground and the geology of the ground into which it entered - Generally, the softer the ground, the deeper the expected penetration depth of the bomb. Peat, alluvium and soft clays are easier to penetrate than gravels and sand and water content plays a part. In addition, it must be remembered that 'barrier geology' such as very dense gravels or bedrock i.e. geology dense enough to stop the progress of a bomb underground, is an important factor in determining the median bomb penetration depth.

Given the ground cover at the time that the bombs fell, the anticipated geology and accepting the norm for the impact angle and velocity of a large UXB, it is reasonable to assume the norm when considering the potential Bomb Penetration Depth (BDP). Therefore, it is estimated that the average penetration depths of Explosive Ordnance (EO) at this site would be:

- British AAA projectiles – 2m
- 50kg HE – 4m
- 250kg HE – 6m
- 500kg HE – 8m
- 1000kg HE – 10m

HOW COULD AN UNCONTROLLED DETONATION BE BROUGHT ABOUT?

Unexploded Bombs rarely spontaneously explode (although some incidents claim to contradict this statement). High Explosive (HE) requires a great deal of energy to create the necessary conditions for detonation to occur. In the case of WWII German bombs being disturbed during intrusive ground works, there are many scenarios to be considered:

- **Direct impact onto the main body of the bomb**. Although this is a possibility, there is little chance of generating enough energy to detonate the explosive fill unless the fuse itself is directly struck.

- **Re-starting the mechanical clock-timer in a bomb fuse**. This is a possibility. It is probable that environmental conditions have corroded the fuse sufficiently to prevent clockwork mechanisms from functioning. However, under some conditions, fuse elements will be in a good condition and additional movement of a bomb fuse may be sufficient to restart a previously 'jammed' mechanical clockwork mechanism.

- **Induction of a static charge, creating a sufficient current to initiate an electric fuse**. This is an unlikely event. Environmental conditions are likely to have corroded the fuse, degrading its components sufficiently to prevent them from functioning. Any elements of the fuse capable of holding a charge would have dissipated in the time since the bomb failed to function.

- **Friction impact initiating fuse elements causing bombs to detonate**. Although remote, this is the most likely scenario that may result in a bomb detonating. Weathering within the fuse pocket can cause the explosives within the fuse to breakdown, crystallize and exude from the fuse itself. Violent physical disturbance of this exuded material carries the remote possibility of initiating the fuse mechanism which in turn will initiate the bomb.

WHAT WOULD THE EFFECTS OF SUCH A DETONATION BE TO THE SITE?

The effects of WWII German bombs detonating have been the subject of several well recorded studies. The general effect of an explosive detonation will depend upon:

- The size of the bomb and its Net Explosive Quantity (NEQ) (i.e. how much explosive material it contains).
- The type of fill in the bomb (i.e. high explosive, incendiary, photoflash).
- The physical location of the bomb. Whether it is:
    - On the surface.
    - Partially buried.
    - Buried (A bomb is 'buried' when it is more than 2½ times its own length below ground level and covered).
- The locations of the bomb in relation to other structures.
- The strength and design of structures near to the seat of an explosion.
- The nature of the ground (i.e. sand, gravel, clay, marsh etc).
- The location of the bomb in relation to human and animal populations.

There would be the potential for ground shock to damage important underground structures including sewers, communication cables, and foundations.

The potential Damage Radii to various underground structures has been assessed by extrapolating from the Joint Service Publication 364 which is the MOD Manual for assessing bomb damage. Potential damage radii for underground structures are assessed as:

Structure	Dist (m)
Brick Walls	30
Foundations	60
Cast Iron/ Concrete Pipes	15
Earthenware/ brisk Sewers	25
Electric Cables/ Steel Pipes	12

WOULD THE SITE CONDITIONS AFFECT THE BOMB FAILURE RATE?

There is no evidence to suggest that bomb failure rate at the site of concern would have been any different from that routinely experienced, i.e. 10-15% of all bombs dropped.

WOULD UXBs HAVE BEEN DISCOVERED DURING WW2?

Density of Bombing. Manchester received a high density of bombing in WW2, and the site sits within the focus of those attacks. We know that the site itself received direct bomb/ mine strikes which caused significant damage. This factor would have made data gathering at the time more complicated and the likelihood of overlooking UXBs higher.

Frequency of Access. Since the site was occupied and used at the time of the air raids, the site of concern would have been subject to post-air raid survey and clearance. The fact that the site itself was affected by bombing, and given its key industrial role, any post-raid survey activities would have been thorough. This would have made the likelihood of identifying smaller items of EO (such as Incendiaries and AP bomblets) quite high whilst larger UXBs would have been more readily identified. However, entry holes and UXBs could easily have been overlooked due to their diminutive size, or gone unnoticed if they fell into water.

Ground Cover. The site was industrial in nature at the time of the attacks and as such it's physical characteristics would act to retard the progress of UXBs underground by reducing their overall velocity prior to impact. However, bomb penetration statistics were collected at the time in similar conditions and therefore the

	maximum potential bomb penetration depths must be considered as the 'worst case'. This is also true of bombs falling into water. **Peripheral Bomb Damage.** We know that the site of concern was subject to serious bomb damage during the War. This increases the possibility of post-air raid operations failing to identify entry holes of potential UXBs.
DOES THE SITE'S DEVELOPMENT HISTORY AFFECT THE POTENTIAL FOR UXO ENCOUNTER?	**Yes.** The fact that there has been a degree of post-War development at the site is worthy of note in that any potential contamination from shallow EO (i.e. AP bombs and IBs) would likely have been discovered during these works and dealt with at the time. Apart from the renovation of the Station with the notable exception of the new structure which appeared in the centre of the site by 1956 (foundation design unknown), much of the site within which the bombs are recorded as falling have seen little redevelopment ibn terms of large, industrial buildings since the end of the War. In areas where redevelopment has not been significant, the potential for UXO encounter as it did immediately post-War. For other areas, it is worth remembering that development either immediately post-War or in the 1960/ 70/ 80s would not have taken any account of the potential for UXBs at the site of concern nor would any effective technology be available to detect such potential threat items. Modern structures tend to have foundation designs that go deeper than historic buildings and risk encountering UXBs at depths beyond existing historic foundation levels or within historic foundation structures that were not detected by excavation or historical bomb survey. Ground volumes between that which has been redeveloped significantly post-War down the maximum anticipated bomb penetration depth (BPD) must be considered potentially at risk from large, deep buried, air-dropped bombs or large Anti-Aircraft Artillery (AAA) Projectiles. If future engineering is to impact on these ground volumes the potential for UXO encounter in this area remains as it did immediately post-War.
DOES THE UXO THREAT VARY ACROSS THE SITE?	**Yes.** Volumes of ground across the site that have already been subjected to extensive redevelopment involving the displacement of earth, may be considered free from the threat of UXO/EO *within the volumes of ground excavated/disturbed*. The same cannot be said of areas of the site that have not been subjected to the same degree of physical disturbance. Areas of the site that have been subjected to historical piling *cannot be automatically considered to be free from the threat of UXO/ EO within the volumes occupied by the piling layout although the threat is significantly reduced* – there is a possibility that historical piles have either missed UXBs at depth or pushed these items aside without incident when they were emplaced. Further, the volume of ground below such piled areas cannot be considered free from the threat of UXO/ EO down to the maximum BPD. Volumes of post-War made ground may be considered free from the threat of UXO/EO also, unless a cross-contamination event has occurred, which would be almost impossible to ascertain.

THREAT ASSESSMENT

POTENTIAL EXPLOSIVE ORDNANCE THREAT ITEMS

The following items are considered to remain under the site as potential threat items:

- Large, air-dropped, German HE Bombs including 50, 250, 500kg bombs (of WW2 vintage).
- British AAA projectiles.

CURRENT EXPLOSIVE ORDNANCE THREAT LEVELS

The Ordnance Threat Levels for the site of concern from the Threat Assessment Matrices are assessed as:

Ordnance Type	Threat Level
50, 250, 500 and 1,000kg bombs, British AAA projectiles	MEDIUM

ENGINEERING WORKS

Intrusive Site Investigation, piled foundations, bulk excavations etc.

RISK PATHWAY

For the purposes of this assessment, it has been assumed that development works could include excavations and/or intrusive engineering beyond WW2 ground levels. It is anticipated that personnel or key equipment may complete the risk pathway during excavation and/or piling operations that may bring them into physical contact with potential threat items.

WHAT ARE THE CONSEQUENCES OF AN UNCONTROLLED DETONATION?

The consequences of the uncontrolled detonation of any of the items of ordnance listed above are:

Asset	Consequence
People	Lost Time Injury >7 Days
Plant	Unit Level Damage
Property	Major Wider Damage
Environmental	Major Effect

THREAT MATRICES

ORDNANCE CATEGORY

The 'Ordnance Category' is assessed for the different types of ordnance in terms of the 'Damage Radii' that may result were the ordnance subject to an uncontrolled explosion and is a function of the calibre of the ordnance and whether it is encountered on the 'surface' or 'buried'.

Ordnance Category	Ordnance Category Description	Danger Radii (m)	Potential Threat Item
0	No Explosive Ordnance (EO) suspected to be present	NA	NA
1	Landmines, Anti-Personnel, HE; HE in Bulk <5Kg; Pyrotechnics	< 75	NA
2	Projectiles, HE <75mm calibre; Projectiles, Mortar, HE 50mm to < 75mm calibre; Grenades, Hand, HE; Grenades, Rifle, HE.	< 100	NA
3	Projectiles, HE < 125mm calibre; Rockets, HE, Anti-Tank (HEAT); Bombs PIAT, HE; Arial Bombs, HE, 50-250Kg (Surface & Buried); Aerial Bombs, Blast, HE & Sea Mines 20-250Kg; Aerial Bomb, HE, 250-500Kg (Buried)	< 250	**British AAA 50kg HE Bombs**
4	Bombs, Mortar, HE <105mm calibre; Bombs, Mortar, Spigot, HE; Landmines, Anti-Tank, HE; Aerial Bombs, HE, 250-500Kg (Surface)	< 300	**250-500kg HE Bombs**
5	Projectile, HE > 125mm calibre; Aerial Bombs, HE, 1500-2500Kg (Surface); Aerial Bomb, Blast, HE & Sea Mines 500-1500Kg (Surface)	< 500	NA
6	Aerial Bombs, HE, 2000-10000Kg (Buried); Aerial Bombs, Blast, HE & Sea Mines 1500-4000Kg (Surface)	< 800	NA

ORDNANCE THREAT

This table assigns the 'Ordnance Threat', which is a function of the Ordnance Category and the anticipated encounter depth. i.e. the smaller and deeper the ordnance the less threat is present to people and property at the surface.

	ORDNANCE CATEGORY						Depth of Encounter (m)
0	1	2	3	4	5	6	
	ORDNANCE THREAT						
							>10
				250-500kg Bomb			5<10
			50kg Bomb				2.5<5
			British AAA				0.5<2.5
							0<0.5
							Surface

ORDNANCE THREAT LEVEL

The 'Ordnance Threat Level' is arrived at by comparing the 'Ordnance Risk' with the 'Likelihood of Encounter' of a ordnance as a function of the level of expected ordnance contamination of a given type at a site of concern.

Ordnance Threat	ASSETS AFFECTED				LIKELIHOOD OF ENCOUNTER				
	People	Plant	Property	Environment	Very Unlikely	Unlikely	Likely	Very Likely	Extremely Likely
	First aid injury	Slight damage	Slight damage	Slight Effect					
	Medical injury	Item repair	Minor damage	Minor Effect					
	Lost time <7 days	Item write off	Major damage	Local Effect					
British AAA, 50-500kg Bomb	Lost time injury >7 days	Unit level damage	Major wider damage	Major Effect	British AAA, 50-500kg Bomb				
	Fatality	Multiple damage	Catastrophe	Massive Effect					
					ORDNANCE THREAT LEVEL				

No special measures required	NEGLIGIBLE	
Monitor & manage potential risks	LOW	
Review & emplace strict control measures if necessary	MEDIUM	X
Control measures required to mitigate risks to acceptable levels	HIGH	
Intolerable Risk Level. Immediate control measures prior to any further works	EXTREME	

THREAT MITIGATION		
ACTIVITY	THREAT MITIGATION MEASURES	FINAL THREAT LEVEL
All Activities	If planned engineering works are going to enter potentially 'at risk' ground volumes, then a threat management strategy **IS REQUIRED** to be in place prior to intrusive engineering works at the site of concern. **Explosive Ordnance Safety Awareness Briefings.** An explosive ordnance Safety Briefing should be included as part of routine site health and safety training and form a key element of the Site Health & Safety Plan. This should be conducted by a trained specialist and would assist conformance with the CDM Regulations 2007. The briefing will instruct all personnel on the identification of EO hazards, actions to take in the event of an EO incident to protect personnel, key equipment, property and the public. **Explosive Ordnance Site Safety Instructions.** Explosive Ordnance Site Safety Instructions should be drafted for inclusion in the site-specific health and safety manual and would include information on dealing with an EO incident safely and appropriately. These instructions would form part of the permanent site documentation and will be an aide memoire for identifying potential EO hazards, making a preliminary threat assessment as well as specific guidelines on what to do in the event of a confirmed incident.	AS LOW AS REASONABLY PRACTICABLE (ALARP)
SITE INVESTIGATION WORKS	Site investigation works should be supported by UXO survey as appropriate. Consideration should be given to whether the works are shallow or deep from the perspective of UXO Survey. 'Shallow' Survey is survey of the ground from 0.0m bgl to 6.5m bgl and 'Deep' UXO Survey is that beyond 6.5mbgl. • **Boreholes.** PLANIT can conduct a non-intrusive survey of a 5m x 5m box which will accurately allow your borehole to proceed into a volume of ground under which there are no ferrous obstructions. Several locations may be provided within a survey box, allowing maximum flexibility for positioning and preventing any boreholes being terminated because of encountering a potential threat item at depth. • **Trial Pits.** Using shallow non-intrusive survey, the area for your trial pit can quickly be surveyed and confirmed as free from ferrous anomalies/UXO. Data is interpreted on-site and therefore locations can be changed very efficiently in the event of a potential obstacle. • **Window Sampling.** Using shallow non-intrusive survey, the area for your window sample can quickly be surveyed and confirmed as free from ferrous anomalies/UXO. Data is interpreted on-site and therefore locations can be changed very efficiently in the event of a potential obstacle.	AS LOW AS REASONABLY PRACTICABLE (ALARP)

SHALLOW INTRUSIVE ENGINEERING WORKS	Where 'shallow' engineering may complete the risk-receptor pathway, there are two options available to effectively deal with the EO Threat when conducting shallow intrusive ground works. **On-Site UXO Support.** On-site UXO Support for shallow ground works would involve the presence of an appropriately trained and experienced UXO Technician during this phase of construction. The role of the UXO Technician is to: • Conduct EO Safety Awareness Briefings as required. • Monitor all intrusive ground works using visual and instrument aided means to locate any EO that may be uncovered during site works. • Provide an immediate and expert assessment of any EO that may be discovered. • Assist in implementing an appropriate and safe response to an EO incident. • Design and emplace protective works as an immediate response to protect personnel, key equipment, property and the public as may be required. • Advise on best safe working practice considering the perceived EO Threat. • Act as the liaison with the Authorities on behalf of the Client in the event of an EO incident. **Shallow Non-Intrusive UXO Survey**. PLANIT can deploy industry leading technology that will survey your site of concern non-intrusively (if ground conditions permit) to identify potential EO Threat Items. Any anomalies identified following the non-intrusive survey that may be EO should then be subject to Controlled Excavation to confirm them as EO and remove the threat or discount them. Once the non-intrusive survey and controlled excavation are complete, there is no further requirement for UXO Support at the site of concern since all EO Threats would have been identified and dealt with.	AS LOW AS REASONABLY PRACTICABLE (ALARP)
DEEP INTRUSIVE ENGINEERING	There are a few options available to effectively deal with potential EO Threats when conducting deep intrusive ground works. Which approach is applicable will depend upon the ground conditions of the site of concern: **Deep Non-Intrusive UXO Survey.** PLANIT can deploy industry leading technology that will survey your site of concern non-intrusively (if ground conditions permit) in order to identify potential EO Threat Items at depth – UXO Survey should proceed to the expected UXB penetration depth or maximum depth of intrusive ground works, whichever is shallower. As a benchmark, PLANITs Deep Non-Intrusive Survey is capable of identifying a 500Kg HE bomb to some 8.0m bgl in average ground and larger bombs deeper. This approach is ideal for covering large areas quickly and can be employed to survey piling runs and borehole locations. Any anomalies identified following the non-intrusive survey that may be EO should then be subject to Controlled Excavation to confirm them as EO and remove the threat or discount them. Once the non-intrusive survey and controlled excavation are complete, there is no further requirement for UXO Support at the site of concern since all EO Threats would have been identified and dealt with. **Magcone UXB Survey.** PLANIT can deploy world class Magcone Survey Systems to survey either pile locations or small areas ahead of intrusive	AS LOW AS REASONABLY PRACTICABLE (ALARP)

	engineering including piling and drilling. The Magcone system is very versatile and can survey to great depths if required. **Down-Hole Magnetometer UXO Survey**. PLANIT can deploy down-borehole UXO Survey equipment that will clear ahead of a piling or borehole rig as it descends underground. The main drawbacks of this approach are that it is time consuming, 'blind' (insofar as the borehole may proceed for some depth before a potential threat item is identified, at which stage the borehole will have to be terminated and relocated, wasting time and money), equipment heavy and expensive. Any anomalies identified during this survey that may be EO should either be subject to Controlled Excavation to confirm them as EO and remove the threat or discount them or relocate the borehole or adjust the piling plan. UXO Survey should proceed to the expected UXB penetration depth or maximum depth of intrusive ground works, whichever is shallower.	

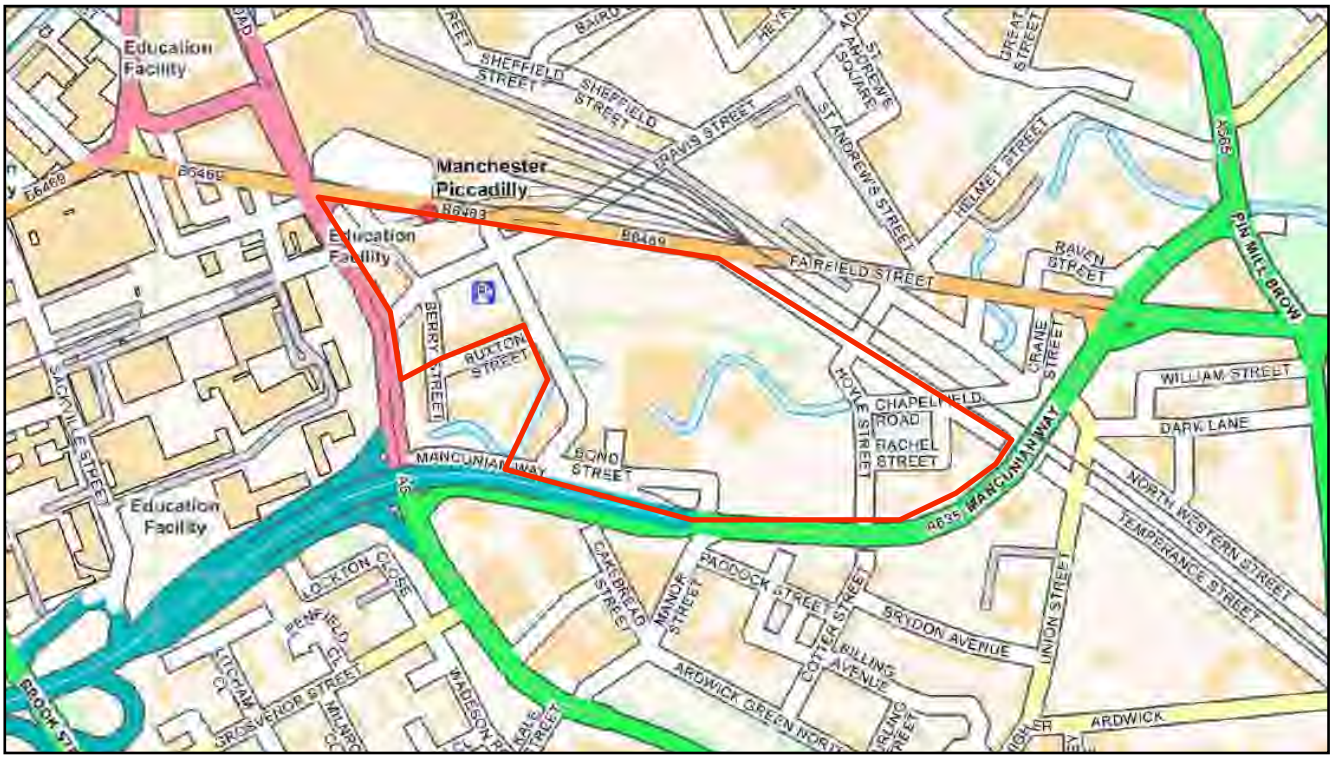
ANNEXES

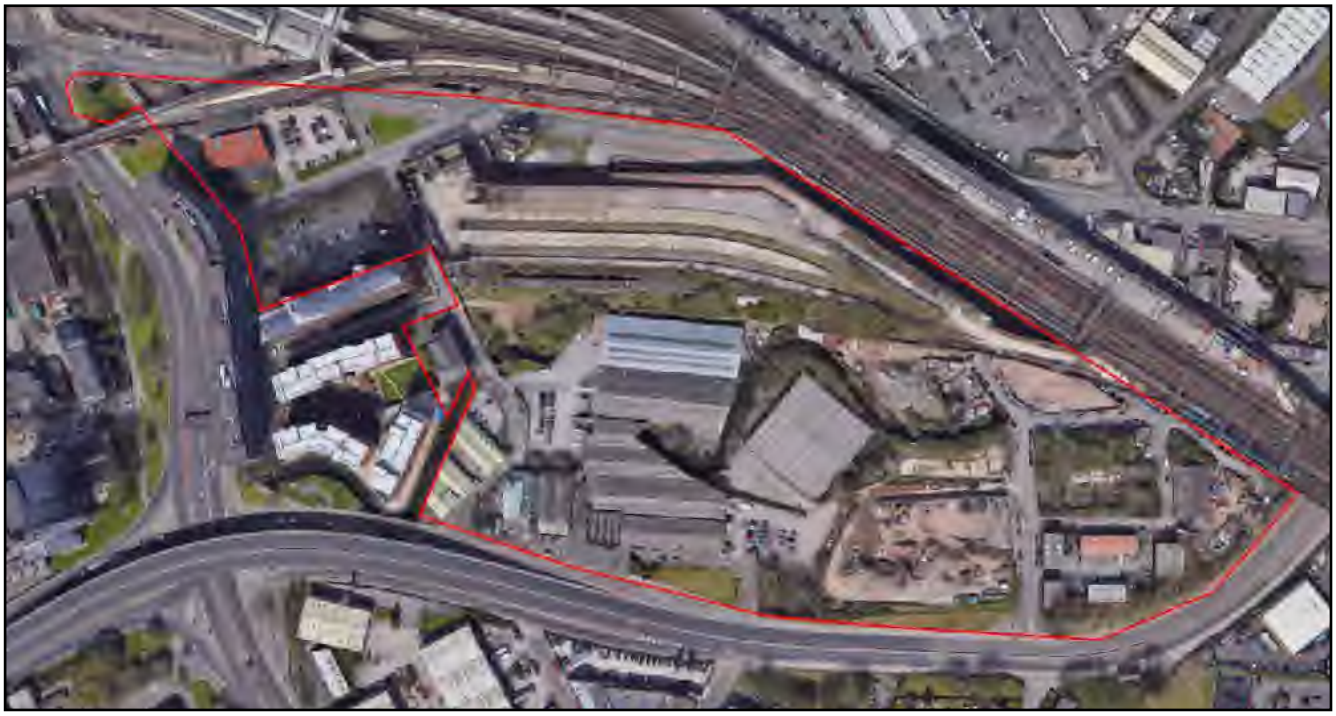
A. Site Location & Layout.
B. Bomb Census Map.
C. Historical Street Maps.





Doc Ref:	EOTA Mayfield Manchester 14/07/17	Site Location	A - 1
Project Ref:	Mayfield Manchester		
Client:	Buro Happold		



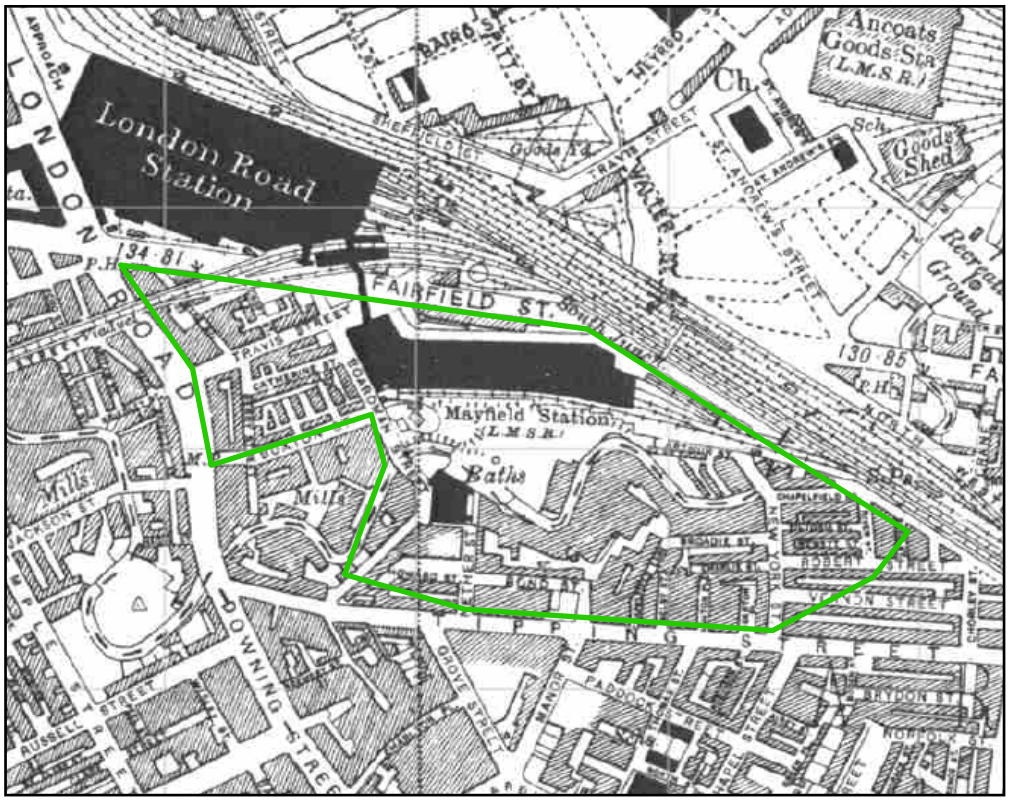


Doc Ref:	EOTA Mayfield Manchester 14/07/17	Site Location	
Project Ref:	Mayfield Manchester		
Client:	Buro Happold		A - 2

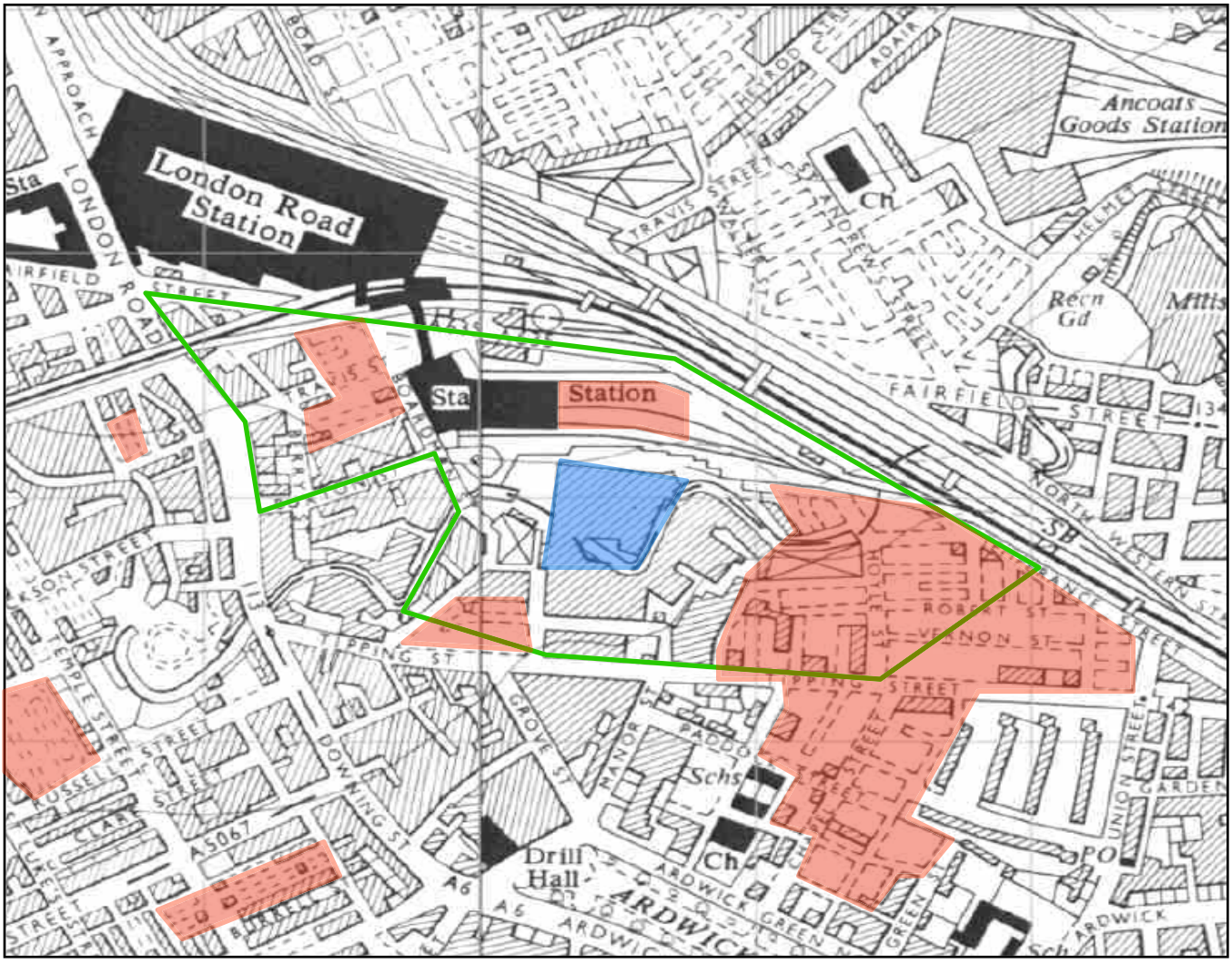


Doc Ref:	EOTA Mayfield Manchester 14/07/17	Site Location	B - 1
Project Ref:	Mayfield Manchester	Bomb Damage	
Client:	Buro Happold	High Explosive Bombs	

1938



1956



Doc Ref:	EOTA Mayfield Manchester 14/07/17	Site Location Bomb Damage New Construction	C - 1
Project Ref:	Mayfield Manchester		
Client:	Buro Happold		