Intelligent
Ground
Remediation

Validation Report

Land off Oldham Road,
Oldham Road,
Manchester,
M40 1EZ

For Be.EV

17 May 2024
Report ref. 24/1435.1.1

Geo2™

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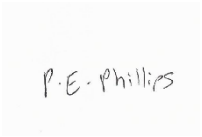
Peter Phillips Project Manager		17 May 2024
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Contents

1.0 Introduction 4

2.0 Groundworks Strategy 5

2.1 Groundworks Aims 5
2.2 Proposed Works 5
2.3 Geo² Remediation Responsibilities 5

3.0 Site Remediation 6

3.1 Licensing 6
3.2 Works Undertaken 6
3.2.1 Fuel Storage and Distribution Infrastructure Removal and Validation 6
3.2.2 Interceptor Removal and Validation 7
3.2.3 Removal of Tank Cradle and Hardstanding 7
3.2.4 Backfilling of Excavations 7

4.0 Laboratory Testing and Results 8

4.1 Soil Validation Sampling 8
4.1.1 Sampling Strategy 8
4.1.2 Soil Validation Laboratory Results – Main Tank Farm 9
4.1.3 Soil Validation Laboratory Results – Waste Oil Tank and Fuel Lines 10
4.1.4 Soil Validation Laboratory Results – Interceptor 11
4.1.5 Suitability For Reuse Onsite – Site Won Crush 12

5.0 Demobilisation 14

6.0 Conclusions 15

7.0 Limitations 16

8.0 References 17

Appendices

Appendix A – Figures
Appendix B – Soil Validation Laboratory Results and Certificates
Appendix C – Geotechnical
Appendix D – Waste Exemption
Appendix E – Photolog

1.0 Introduction

Geo² Remediation Limited were commissioned by Be.EV to conduct subsurface infrastructure removal, soil validation and enabling works at a site located at

Land off Oldham Road,,

Oldham Road,
Manchester,
M40 1EZ.

This report was undertaken following the completion of remediation works undertaken at the site. These remedial works comprised the removal of fuel storage and distribution infrastructure and gross contamination followed by validation sampling of the soils surrounding the removed infrastructure to evidence the suitability for the proposed commercial use.

The validation sampling results and findings, detailing remedial works undertaken as part of the build programme are presented in this report following completion of remedial works.

The aim of the report will be to demonstrate that the proposed infrastructure and contaminative source removal have been undertaken.

2.0 Groundworks Strategy

2.1 Groundworks Aims

In order to mitigate the risks associated with the presence of historical petrol station infrastructure and possible associated contaminated soil underlying the site, a groundworks plan was developed. The aim of the works was to achieve the removal of potential sources of hydrocarbon contamination identified at the site.

2.2 Proposed Works

Geo^2 were contracted as a specialist remediation contractor to enable development of the site in accordance with the Environmental Protection Act (1990) Part 2A- Contaminated Land Statutory Guidance as required by planning authorities. Contracted works were:

- **Fuel storage and distribution infrastructure removal and validation** – Removal of existing fuel storage and distribution infrastructure with validation of surrounding soils to ensure no unacceptable levels of contamination remain. As part of this, the removal of grossly contaminated soils and groundwater could be undertaken if required.
- **Removal of interceptor and validation** - Removal of existing interceptor with validation of surrounding soils to ensure no unacceptable levels of contamination remain. As part of this, the removal of grossly contaminated soils and groundwater could be undertaken if required.
- **Removal of tank cradle and hardstanding** – Removal of concrete tank cradle from main excavation and hard standing from across site surface. This was then crushed in line with the Earthworks specification for reuse on site. Works were undertaken under a U1 exemption.
- **Backfilling of excavations** – Crushed site hardstanding was used to backfill the tank and interceptor excavations. Backfilling and compaction works were undertaken in line with the groundwork's specification (220698-CON-X-XX-RP-C-0001 Earthworks Specification) and Highways Series 600.

2.3 Geo^2 Remediation Responsibilities

The principal responsibilities of Geo^2 which were outlined before the project commenced comprised:

- Register and use of a U1 Waste Exemption
- Validation of soils following removal fuel storage and distribution infrastructure.
- Validation of soils following removal of interceptor.
- Supervision of removal of grossly contaminated material if required.
- Provision of remediation validation report.

The works were designed and managed by a WAMITAB accredited manager from Geo^2.

3.0 Site Remediation

3.1 Licensing

As part of the works undertaken, hardstanding and foundations surfacing and underlying the site were recycled and reused on site under a U1 exemption (Ref: WEX399788). This exemption allows for the reuse of up to 1,000 tonnes of specific waste materials which includes brick and concrete.

To follow best practice, a Geo² Technically Competent Manager (TCM) was present on site throughout the works.

Terms of this exemption were followed throughout the works.

3.2 Works Undertaken

3.2.1 Fuel Storage and Distribution Infrastructure Removal and Validation

Three USTs were identified onsite, with two large tanks in the main tank farm, in the north of the site, and one small waste oil tank in the south-east of the site. in the tank farm in the north-east of the site.

The two tanks in the north of the site were observed to be approximately 54,000 litres in capacity and of single skin steel construction. These tanks were split with the western tank having three compartments and the eastern tank having two compartments. All compartments in both tanks had historically been cleaned and foam filled. Both tanks were observed to be in good condition. The tanks were opened using cold cutting techniques before the foam was mechanically excavated and removed from site in skips by an appropriately licensed contractor. The tanks were broken out of the concrete cradle in which they were housed and removed from the subsurface. The tanks were then broken up with metal waste being removed from site by an appropriately licensed contractor. The concrete tank cradle was then broken out and removed from the excavation for crushing. Soil validation samples were obtained from the walls and base of the excavation. The soils surrounding the tank cradle were observed to be stiff to very stiff, plastic clay. No evidence of hydrocarbon contamination was observed in any of the soils surrounding the tank cradle.

The waste oil tank located in the south-east of the site was observed to be approximately 1,000 litres in capacity and of single skin steel construction. Waste oil was still present within the tank which was removed by vacuum tanker for disposal offsite by an appropriately licensed contractor. The tank was not observed to be housed in a cradle and the tank was removed from the subsurface. The soil surrounding the tank was comprised of made ground noted to be a sand and gravel fill of concrete, brick and sandstone with occasional brick and concrete cobbles and boulders. A hydrocarbon odour and elevated vapour readings (max 256.6ppm) were noted in the soils with an oil smear present on some gravels. As such, the soil was excavated and quarantined onsite before disposal by an appropriately licensed contractor. Grossly contaminated material was identified by an appropriately qualified engineer using visual, olfactory and vapour reading indications. Once the impacted made ground was removed by an appropriately licensed contractor, validation samples were obtained from the surrounding clean stiff clay.

Fuel lines, vent lines and offset fill lines were also identified in the area of the main tank farm and the historical forecourt. The vent and offset fil lines ran over the top of the tanks and as such removal was undertaken during breaking out of the tanks. The fuel lines were identified running south from the tanks to the historical forecourt. These were observed to be cut and capped. These were removed from the subsurface by mechanical excavation methods. Validation samples were obtained from beneath the identified fuel lines with no evidence of hydrocarbon contamination noted. The material underlying the fuel lines was identified as made ground comprising brown, sandy, very clayey gravel of concrete, brick and sandstone.

The results of the soil validation sampling are discussed in Section 4.0 of this report.

3.2.2 Interceptor Removal and Validation

A three-stage interceptor was identified in the south-west of the site. This was observed to be filled with water which was removed by vacuum tanker. The interceptor was then cleaned and mechanically excavated. The interceptor chambers were encapsulated in concrete which was broken out and crushed. The soils surrounding the interceptor comprised firm to very stiff, plastic clay. No evidence of hydrocarbon contamination was noted in these soils. Validation samples were obtained from the base and walls of the interceptor excavation.

The results of the soil validation are discussed in Section 4.0 of this report.

3.2.3 Removal of Tank Cradle and Hardstanding

A tank cradle was identified in the main tank farm area in the north of the site. This was constructed of concrete and observed to be in good condition. The cradle was approximately 0.5m thick and did not display any evidence of hydrocarbon staining. The concrete was broken out using a mechanical excavator and stockpiled. An L-shaped section of cradle remains in place along the west wall and south west corner of the main tank farm in order to support the gas main that runs through the area and to avoid potential damage caused by the excavator or soil collapse.

Hard standing concrete from across the site was broken out using a mechanical excavator. Two large subsurface concrete stanchion bases were identified and broken out. Identified areas of brick foundation and historical manhole chambers were broken out unless otherwise requested by Be-EV such as the main drainage outlet from site. In some areas minor sections of hardstanding were left due to concerns relating to the stability of the palisade fence that surrounds the site.

An area of tarmac road was identified in the north of the site which was broken out and stockpiled. This was considered unsuitable for reuse and as such was removed by an appropriately licensed contractor.

3.2.4 Backfilling of Excavations

Site won concrete and brick was crushed onsite for reuse to backfill excavations. This reuse of material was undertaken under a U1 exemption. Material was crushed to structural fill grading in line with the Earthworks Specification with deleterious materials removed. This site won crush was then used to back fill the main tank farm excavation, the waste oil tank excavation, and the interceptor excavation. Surplus crush was then spread across site ensuring a suitable roadway was present for access. The crush was suitably compacted in line with Highways Series 600 Specifications. CBR testing was undertaken across the backfilled excavation with CBR values ranging from 8.8-35%. The full CBR testing report is presented in Appendix C.

4.0 Laboratory Testing and Results

4.1 Soil Validation Sampling

4.1.1 Sampling Strategy

Soil validation samples were obtained from beneath removed fuel storage and distribution infrastructure and the interceptor.

Samples were recovered from the soils surrounding the USTs, fuel lines and interceptor and site won crush. The samples recovered for analysis are presented in Table 1. The locations of these sampling locations are detailed in Figure 2, Appendix A. Table 1 also outlines the justifications for the collection of each of the samples.

Samples of soil obtained were submitted to the laboratory for chemical analyses. The purpose of the testing was to determine whether the soils that remained on-site were contaminated with hydrocarbons at concentrations which could pose a risk to human health and the surrounding environment. .Some grossly contaminated material was observed during validation works surrounding the waste oil tank, which was stockpiled for offsite disposal after WAC testing had been performed.

Sample Reference	Depth	VOC content (PPM)	Justification
V1	2.5m	0.0	North-west corner wall of Main Tank Farm
V2	2.5m	0.0	North wall of Main Tank Farm (west half)
V3	2.5m	0.0	South wall of Main Tank Farm (west half)
V4	4.0m	0.1	Base of Main Tank Farm (west half)
V5	2.5m	0.0	South wall of Main Tank Farm (east half)
V6	2.5m	0.3	North wall of Main Tank Farm (east half)
V7	4.0m	0.0	Base of Main Tank Farm (east half)
V8	2.5m	0.0	Eastern wall of tank farm
V2-1	2.0m	0.1	Beneath waste oil tank
V2-2	1.5m	2.0	South wall of waste oil tank excavation
V2-3	1.5m	0.1	North wall of waste oil tank excavation
V3-1	0.5m	0.2	Beneath historical fuel lines
V3-2	0.5m	11.6	Beneath historical fuel lines
V4-1	1.5m	0.3	North wall of interceptor excavation.
V4-2	2.0m	0.6	South wall of interceptor excavation.
V4-3	1.5m	0.2	West wall of interceptor excavation.
V4-4	1.5m	1.0	East wall of interceptor excavation.
V4-5	2.5m	0.0	Base of interceptor excavation.
Crush - 1	-	0	Suitability for reuse of site won crush
Crush - 2	-	0	Suitability for reuse of site won crush
Crush - 3	-	0	Suitability for reuse of site won crush
WAC - OT	-	256.6	WAC testing for disposal of contaminated soils from around Waste Oil Tank

Table 1. Soil Validation Sample Justification

The laboratory results for the soil validation sampling are presented overleaf in Tables 2-5, along with the Generic Acceptance Criteria LQM/CIEH 'Suitable 4 use levels' (GAC) for contaminants in a commercial/industrial setting. Results of the laboratory analysis of the soil validation samples are presented in Appendix B.

4.1.2 Soil Validation Laboratory Results – Main Tank Farm

Determinand	Units	V1 (2.5m)	V2 (2.5m)	V3 (2.5m)	V4 (4.0m)	V5 (2.5m)	V6 (2.5m)	V7 (4.0m)	V8 (2.5m)	GAC (mg/kg)
Aliphatic TPH >C5-C6	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	3200
Aliphatic TPH >C6-C8	mg/kg	0.03	0.06	0.01	0.02	0.01	0.04	0.02	<0.01	7800
Aliphatic TPH >C8-C10	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	2000
Aliphatic TPH >C10-C12	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	3200
Aliphatic TPH >C12-C16	mg/kg	<1	<1	<1	1	<1	<1	<1	<1	59000
Aliphatic TPH >C16-C21	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	1600000
Aliphatic TPH >C21-C35	mg/kg	<1	1	4	2	4	1	4	7	1600000
Total Aliphatics	mg/kg	<1	1	4	3	4	1	4	7	-
Aromatic TPH >C5-C7	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	26000
Aromatic TPH >C7-C8	mg/kg	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	56000
Aromatic TPH >C8-C10	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	3500
Aromatic TPH >C10-C12	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	16000
Aromatic TPH >C12-C16	mg/kg	<1	<1	<1	1	<1	<1	2	<1	36000
Aromatic TPH >C16-C21	mg/kg	<1	1	<1	1	1	<1	2	<1	28000
Aromatic TPH >C21-C35	mg/kg	<1	2	2	2	4	1	4	4	28000
Total Aromatics	mg/kg	<1	4	2	5	5	1	8	4	-
Benzene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	27
Toluene	mg/kg	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	56000
Ethylbenzene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	57000
m & p Xylene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5900
o Xylene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6600
MTBE	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-

Table 2. Summary of Soil Validation Results – Main Tank Farm

The validation results from samples obtained from soils surrounding the main tank farm presented in Table 2 above, identified no exceedances of Generic Acceptance Criteria (S4UL) for a commercial/industrial site setting using a conservative 1% Soil Organic Matter.

4.1.3 Soil Validation Laboratory Results – Waste Oil Tank and Fuel Lines

Determinand	Units	V2-1 (2.0m)	V2-2 (1.5m)	V2-3 (1.5m)	V3-1 (0.5m)	V3-2 (0.5m)	GAC (mg/kg)
Aliphatic TPH >C5-C6	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	3200
Aliphatic TPH >C6-C8	mg/kg	0.01	0.03	0.03	<0.01	<0.01	7800
Aliphatic TPH >C8-C10	mg/kg	<1	<1	<1	<1	<1	2000
Aliphatic TPH >C10-C12	mg/kg	<1	<1	<1	<1	<1	3200
Aliphatic TPH >C12-C16	mg/kg	<1	<1	<1	<1	7	59000
Aliphatic TPH >C16-C21	mg/kg	<1	<1	<1	<1	8	1600000
Aliphatic TPH >C21-C35	mg/kg	1	<1	<1	7	10	1600000
Total Aliphatics	mg/kg	1	<1	<1	8	25	-
Aromatic TPH >C5-C7	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	26000
Aromatic TPH >C7-C8	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	56000
Aromatic TPH >C8-C10	mg/kg	<1	<1	<1	2	6	3500
Aromatic TPH >C10-C12	mg/kg	<1	<1	<1	<1	<1	16000
Aromatic TPH >C12-C16	mg/kg	<1	<1	<1	2	7	36000
Aromatic TPH >C16-C21	mg/kg	<1	<1	<1	6	14	28000
Aromatic TPH >C21-C35	mg/kg	<1	<1	<1	22	38	28000
Total Aromatics	mg/kg	<1	<1	<1	31	65	-
Benzene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	27
Toluene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	56000
Ethylbenzene	mg/kg	0.02	<0.01	<0.01	<0.01	<0.01	57000
m & p Xylene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	5900
o Xylene	mg/kg	0.02	<0.01	<0.01	<0.01	<0.01	6600
MTBE	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	-

Table 3. Summary of Soil Validation Results – Waste Oil Tank and Fuel Lines

The validation results from samples obtained from soils surrounding the waste oil tanks and from beneath the fuel lines, presented in Table 3 above, identified no exceedances of Generic Acceptance Criteria (S4UL) for a commercial/industrial site setting using a conservative 1% Soil Organic Matter.

4.1.4 Soil Validation Laboratory Results – Interceptor

Determinand	Units	V4-1 (1.5m)	V4-2 (2.0m)	V4-3 (1.5m)	V4-4 (1.5m)	V4-5 (2.5m)	GAC (mg/kg)
Aliphatic TPH >C5-C6	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	3200
Aliphatic TPH >C6-C8	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	7800
Aliphatic TPH >C8-C10	mg/kg	<1	<1	<1	<1	<1	2000
Aliphatic TPH >C10-C12	mg/kg	<1	<1	<1	<1	<1	3200
Aliphatic TPH >C12-C16	mg/kg	<1	<1	<1	4	2	59000
Aliphatic TPH >C16-C21	mg/kg	<1	<1	<1	5	2	1600000
Aliphatic TPH >C21-C35	mg/kg	1	<1	1	4	2	1600000
Total Aliphatics	mg/kg	1	<1	1	13	7	-
Aromatic TPH >C5-C7	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	26000
Aromatic TPH >C7-C8	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	56000
Aromatic TPH >C8-C10	mg/kg	<1	<1	3	4	<1	3500
Aromatic TPH >C10-C12	mg/kg	<1	<1	3	3	<1	16000
Aromatic TPH >C12-C16	mg/kg	<1	<1	1	4	1	36000
Aromatic TPH >C16-C21	mg/kg	<1	<1	<1	3	1	28000
Aromatic TPH >C21-C35	mg/kg	1	<1	<1	1	2	28000
Total Aromatics	mg/kg	1	<1	6	14	5	-
Benzene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	27
Toluene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	56000
Ethylbenzene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	57000
m & p Xylene	mg/kg	<0.01	<0.01	0.01	<0.01	<0.01	5900
o Xylene	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	6600
MTBE	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	-

Table 4. Summary of Soil Validation Results – Interceptor

The validation results from samples obtained from soils surrounding the interceptor, presented in Table 4 above, identified no exceedances of Generic Acceptance Criteria (S4UL) for a commercial/industrial site setting using a conservative 1% Soil Organic Matter.

4.1.5 Suitability For Reuse Onsite – Site Won Crush

Determinand	Units	Crush -1	Crush-2	Crush-3	GAC (mg/kg)
Aliphatic TPH >C5-C6	mg/kg	<0.05	<0.01	<0.01	3200
Aliphatic TPH >C6-C8	mg/kg	<0.05	<0.01	<0.01	7800
Aliphatic TPH >C8-C10	mg/kg	<10	2	<1	2000
Aliphatic TPH >C10-C12	mg/kg	<10	7	1	3200
Aliphatic TPH >C12-C16	mg/kg	18	33	7	59000
Aliphatic TPH >C16-C21	mg/kg	35	39	14	1600000
Aliphatic TPH >C21-C35	mg/kg	60	127	103	1600000
Total Aliphatics	mg/kg	112	208	125	-
Aromatic TPH >C5-C7	mg/kg	<0.05	<0.01	<0.01	26000
Aromatic TPH >C7-C8	mg/kg	<0.05	<0.01	<0.01	56000
Aromatic TPH >C8-C10	mg/kg	132	10	11	3500
Aromatic TPH >C10-C12	mg/kg	<10	9	1	16000
Aromatic TPH >C12-C16	mg/kg	<10	20	5	36000
Aromatic TPH >C16-C21	mg/kg	16	19	10	28000
Aromatic TPH >C21-C35	mg/kg	16	39	59	28000
Total Aromatics	mg/kg	164	96	86	-
Benzene	mg/kg	<0.05	<0.01	<0.01	27
Toluene	mg/kg	<0.05	<0.01	<0.01	56000
Ethylbenzene	mg/kg	<0.05	<0.01	<0.01	57000
m & p Xylene	mg/kg	<0.05	0.01	<0.01	5900
o Xylene	mg/kg	<0.05	0.01	<0.01	6600
MTBE	mg/kg	<0.05	<0.01	<0.01	-
Asbestos					GAC
Asbestos ID		NAD	Amosite Board	Amosite Board	
Asbestos Quantification		-	<0.001	<0.001	0.1%
Sulphate					
pH		12.18	11.91	11.87	
Sulphate (water sol 2:1)	mg/l	10	10	180	500-1500 mg/l
Sulphate (acid soluble)	mg/kg	2900	2100	1900	
Sulphate BRE (total potential)	% w/w	0.33	0.21	0.18	0.24-0.6%
Sulphur BRE (total)	% w/w	0.11	0.07	0.06	
CLEA Metals					**S4UL**
Arsenic	mg/kg	3	4	2	640
Barium	mg/kg	73	76	40	-
Berylium	mg/kg	<0.5	<0.5	<0.5	12
Cadmium	mg/kg	<0.5	<0.5	<0.5	190
Chromium	mg/kg	20	12	8	8600
Lead	mg/kg	37	44	20	2300
Mercury	mg/kg	<0.17	<0.17	<0.17	1100
Nickel	mg/kg	11	10	5	980
Selenium	mg/kg	<1	<1	<1	12000
Vanadium	mg/kg	10	12	9	9000
Zinc	mg/kg	62	50	46	730000

Table 5. Summary of Suitability for Use – Crush

The laboratory results from samples obtained from the site won crush, presented in Table 5 above, identified no exceedances of Generic Acceptance Criteria (S4UL) for a commercial/industrial site setting using a conservative 1% Soil Organic Matter. This evidences that the crush is suitable for reuse on site.

Laboratory results also indicate that crush is in compliance with the 2:1 water-soil water soluble sulphate extract and total potential sulphate limits for Design Sulphate Class DS-2, as defined in Table C2 of BRE Special Digest 1, 2005.

Whilst the presence of asbestos was identified in two samples, these were reported in concentrations below limit of detection at <0.001%.

5.0 Demobilisation

Following the successful removal of fuel storage and distribution infrastructure, validation of soils and backfilling of excavations, excess crush was spread across the site to provide a working platform for future works.

Upon demobilisation from site, all areas of site were left secure tidy. Photographic evidence for site condition has been provided within photologs presented in Appendix E.

All wastes will be disposed of in line with current duty of care regulations, with records stored at Geo^2's office.

6.0 Conclusions

Geo² were contracted as a specialist remediation contractor to enable development of the site located off Oldham Road, Manchester, M40 1EZ in accordance with the Environmental Protection Act (1990) Part 2A-Contaminated Land Statutory Guidance as required by planning authorities. Contracted and completed works were:

- **Fuel storage and distribution infrastructure removal and validation** – Removal of existing fuel storage and distribution infrastructure with validation of surrounding soils to ensure no unacceptable levels of contamination remain. As part of this, the removal of grossly contaminated soils and groundwater could be undertaken if required.
- **Removal of interceptor and validation** - Removal of existing interceptor with validation of surrounding soils to ensure no unacceptable levels of contamination remain. As part of this, the removal of grossly contaminated soils and groundwater could be undertaken if required.
- **Removal of tank cradle and hardstanding** – Removal of concrete tank cradle from main excavation and hard standing from across site surface. This was then crushed to <125mm for reuse on site. Works were undertaken under a U1 exemption.
- **Backfilling of excavations** – Crushed site hardstanding was used to backfill the tank and interceptor excavations. Backfilling and compaction works were undertaken in line with the groundwork's specification (220698-CON-X-XX-RP-C-0001 Earthworks Specification) and Highways Series 600.

Validation samples collected all provided evidence that residual in-situ materials and those processed for reuse identified no exceedances of Generic Acceptance Criteria (S4UL) for a commercial/industrial site setting using a conservative 1% Soil Organic Matter.

Materials chemically or otherwise unsuitable (tarmac, contaminated soils, historic tank decommissioning foams etc) were exported for disposal and are no longer on-site. Consignment notes to be provided on completion by the consignee.

The site is now considered free of identified contaminant sources associated with historical petrol filling station infrastructure. In line with Part 2A of the Environmental Protection Act 1990, Contaminated Land Statutory Guidance, the site is now considered suitable for the proposed redevelopment.

7.0 Limitations

Geo²s' conclusions, recommendations and opinions are based on information gathered at the time of the investigation from a variety of third party sources and from observations made during site reconnaissance and ground conditions encountered during the field work and on the results of laboratory and field tests performed during the investigation. However, there may be conditions at the site that have not been taken into account, such as unpredictable soil strata and water conditions between or below intrusive locations. It should also be noted that groundwater levels may vary due to seasonal or other effects and may at times differ to those measured during the investigation.

A portion of this report is based solely upon information provided by third parties. The information has not been independently verified by Geo². Whilst this report and the opinions given in it are accurate to the best knowledge of Geo², Geo² cannot guarantee the completeness or accuracy of any descriptions, opinions or conclusions based solely upon information that has not been independently verified.

The recommendations contained within this report represent our professional opinions. These opinions were arrived at in accordance with currently accepted industry practices and hydrological and engineering practices at this time. As such they are not a guarantee that the site is free of hazardous materials or conditions. Geo² prepared this report for our Client; any third parties using this report do so entirely at their risk. Geo² makes no warranty or representation whatsoever, express or implied, with respect to the use by a third party of any information contained in this report or its suitability for any purpose.

Geo² assumes no responsibility for any costs, claims, damages or expenses (including any consequential damages) resulting from the use of this report or any information contained in this report by a third party.

8.0 References

Be.EV

Earthworks specification. Report reference 220698/A. (2023)

Delta Simons

Geo-Environmental Assessment, Report reference 22-1496.04_87687.546937_REP_Reliance Street_GEA_221222 (2022)

Miscellaneous

BRE Special Digest 1, (2005)

Highways specification 600. (February 2016)

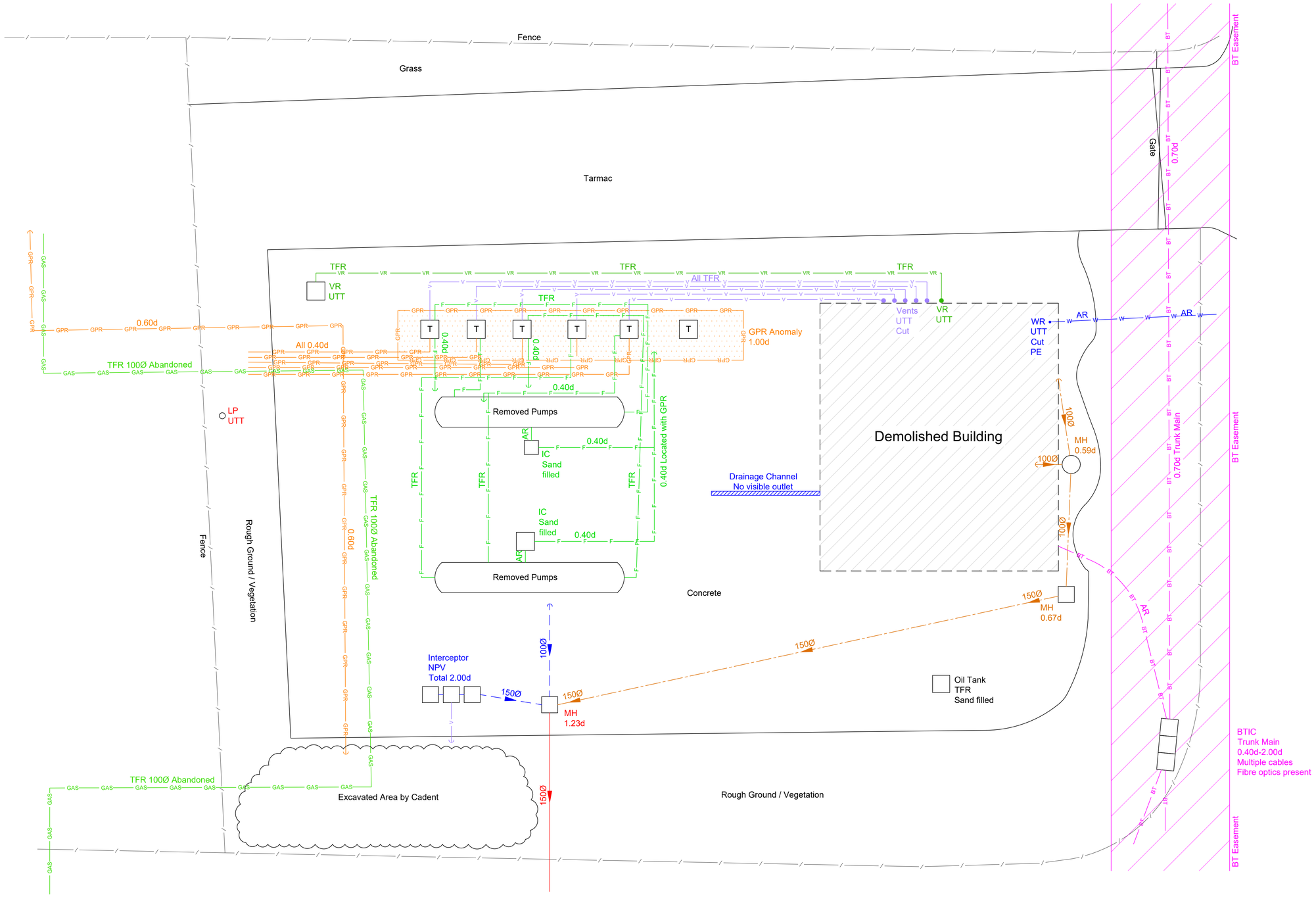
LQM/CIEH 'Suitable 4 Use Levels – Land Quality Management (LQM) (2015)

Legislation

Environmental Protection Act 1990: Part 2A, Contaminated Land Statutory Guidance (April 2012)

Appendix A – Figures

Not to Scale Reference Only



GENERAL NOTES:

Not to scale, reference only.

Demolished petrol filling station.

All tanks are sand/foam filled, unable to survey.

Partial signals on fuel lines, vent lines & offset fills. Some taken from records only.

No canopy.

Rough demolished terrain proving difficult for ground penetrating radar in places.

SHEET LAYOUT

KEY

COMPRESSED AIR
SURVEY BOUNDARY
CABLE TELEVISION
COMMUNICATIONS CABLE
COMBINED DRAINAGE
DUCTING
EARTH CABLE
ELECTRIC CABLE
FUEL PIPE
FOUL DRAINAGE
GAS PIPE
GAUGE LINE
HEATING PIPE
OFFSET FILL PIPE
PUMPING MAIN
RADAR ANOMALY AREA
RADAR TRACE
SURFACE DRAINAGE
TELECOMS CABLE
TRAFFIC LIGHT CABLE
UNIDENTIFIED
VAPOUR RECOVERY
VENT PIPE
WATER PIPE
END OF TRACE
SURVEY CONTROL STATION
0.5 BENCH MARK

A single line indicating a utility may indicate the presence of multiple services within close proximity to each other. Where a single line type is shown we recommend hand digging within 0.50m to expose hidden services.

ABBREVIATIONS

AIR	ASSUMED ROUTE	EL	ELECTRICITY POLE
ASP	AIR VALVE	ES	EARTH ROD
BAR	BOLLARD/BARRIER	ESP	ELECTRICITY SUPPLY POINT
BH	BACKDROP	FCU	ELECTRICAL SWITCH
BHR	BED LEVEL	FH	FIRE HYDRANT
BOL	BOLLARD	FP	FLOOD LIGHT POLE
BRA	BUILDING WATER COVER	G	GAS VALVE
BRK	BUILDING WAY TO BRK	GM	GAS METER
BL	BASEMENT LIGHT	GP	GUIDE POST
BP	BOLLARD	GPR	GROUND PENETRATING RADAR
BT	BOUNDARY POST	GULY	GULLY
BS	BUS STOP	GV	GAS VALVE
CAB	CABLE TELEVISION CHAMBER	HC	HEDGE CUTTING
CATV	CABLE TV COVER	HP	INSPECTION CHAMBER
CB	CONTROL BOX	K	KERBS LEVEL
CH	CHIMNEY	L	LAMP
CHA	CHIMNEY	LB	LAMP BOX
CL	CABLE LEVEL	LP	LAMP POST
CL	COVER LEVEL	LT	LIGHT POST
CP	CONTROL POST	LTV	LOW VOLTAGE
CWP	CABLE PIT	MH	METERS HIGH
CWP	CAMERA POST	MK	MARKER POST
CWP	CAMERA POST	MP	MANHOLE
CWP	LIGHT POST	NP	NATIVE POST
D	DEPTH	NTL	NOT TO LEVEL
Dia	DIAMETER	OB	OBSTRUCTION
DP	DRAIN PIPE	OHL	OVERHEAD CABLES
DP	DRAINAGE MANHOLE	OHP	OVERHEAD POLE
EC	EXISTING INSPECTION COVER	OHW	OVERHEAD WIRES
EOR	END OF RECORDS	P	POST
EOT	END OF TRACE	PC	POLYETHYLENE
		PH	MAINTENANCE OPTIC/ON
		PP	PETROL PUMP/PUMP
		PW	FIRE HOSE
		PWC	PUMP
		RC	REINFORCED CHLORIDE
		RE	RODDING EYE
		RG	RAIN GAUGE
		RWP	RAIN WATER PIPE
		S	SIGN POST
		SC	SLOPE CAP
		SCP	SLOPE CAP/PIT
		SVP	SOIL VENT PIPE
		TCB	TELECOMMUNICATIONS BOX
		TCB	TELEPHONE CALL BOX
		TFR	TAKEN FROM RECORDS
		TP	TELEGRAPH POLE
		TP	TELEGRAPH POLE
		TP	TRIAL PIT
		TRP	TRAFFIC LIGHTS
		UTCH	UNABLE TO GAIN ACCESS
		UTM	UNABLE TO MEASURE
		UTR	UNABLE TO READ
		UTS	UNABLE TO SURVEY
		UTT	UNABLE TO TRACE
		VC	VITRIFIED CLAY
		VP	VENT PIPE
		WB	WATER BOUNDARY
		WH	WATER HYDRANT
		WM	VEHICLE TRAFFIC WHEEL
		WP	WATER POST
		WR	WATER METER
		WV	WASH OUT VALVE
		WWP	WATER WELL
		WWP	WASTE WATER PIPE

Issue	Date	Description

CLIENT: GEO2
DWG No: 0085-GEO2-050424
REV:

SITE ADDRESS:
Demolished Petrol Filling Station
Oldham
Manchester
M40 2FU

SCALE: Not to Scale A1
SURVEYED: R.J.
DRAWN: A.B.
DATE: 08-04-2024

SURVEY TYPE
TOPOGRAPHICAL [ ]
DRAINAGE [X]
UTILITY [X]

RCLP SURVEYS LTD
38 Lakeen Road, Intake, Doncaster, DN2 5HB.
Tel: 07714 186 732 Email: rclpsurveys@gmail.com
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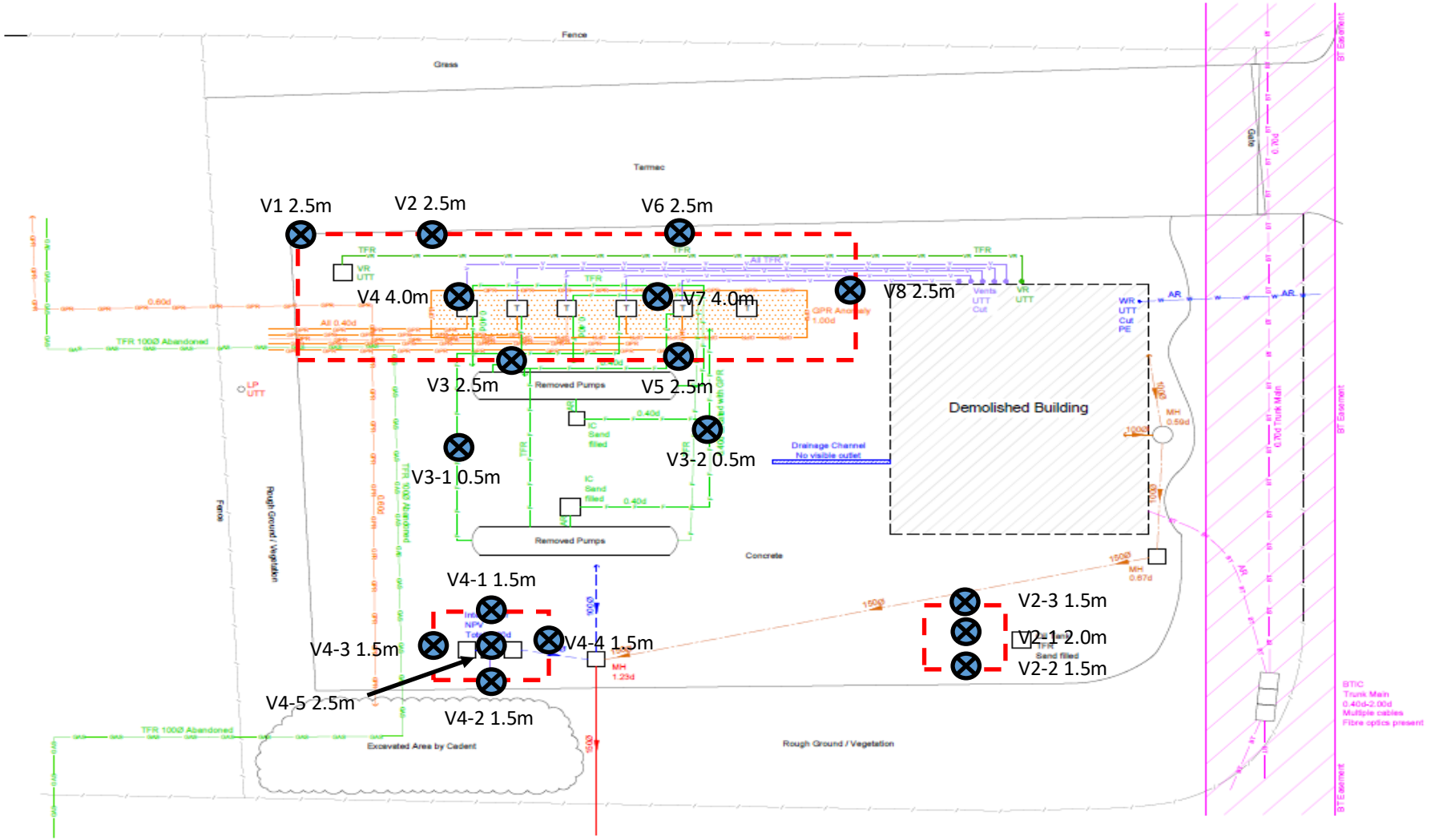
Not to Scale Reference Only

Disclaimer: Electro-magnetic and ground penetrating radar techniques have been used where reasonably practicable in the location of underground services/features. Please note that not all buried pipes, cables, drains, ducting and features can be detected and mapped in consideration of their depth, location, material type, geology and proximity to other utilities.Please note that all G.P.R depths are approximate only.Whilst every effort has been made to ensure accuracy, RCLP Surveys Ltd cannot be held responsible for any missed underground services/features that have not been identified. **Telecommunication covers can not and will not be lifted, these services will be searched for using G.P.R. with statutory drawings being needed from the relevant providers.** Where the precise position or depths of services/features are critical to the design or siteworks they must be verified by the use of trial excavation, ref: HSG47 document "Avoiding dangers from underground services". Please exercise due care and diligence when excavating. Services marked as TFR (taken from records) have not been proven on site. All reasonable effort and care has been made in searching through available record drawings. The completeness of the underground service information supplied to and by us cannot be guaranteed. This plan should not be used for planning and/or designing.

Not to Scale Reference Only

Geo2 Reliance Street—Validation Sample Locations



Not to Scale Reference Only

PIPEWORK INSTALATION.

1. All pipework is to be medium weight galvenised mild steel pipe to comply with BS 1387 Table 2 with screwed and socketed joints. Fittings to comply with BS 143 and BS 21:1973.

2. All suction and vent lines bedded and surrounded in 150mm sulphate resisting concrete by the general contractor.

3. Pipe sizes to be:
Suctions: 38mm (under 21m run and static lift below 3600mm)
or: 50mm (over 21m)
Vents: 50mm
Fills: 100mm

4. The pipefitter is to note that the layout is diagrammatic only and is to ensure that the most economic layout is to be made. The pipefitter is to ensure that the correct side of the pumps are fed from the correct tanks.

5. All storage tanks are to be manufactured to BS 2594:1975. and are to be installed strictly in acccordance with BS:1974 and to the local petroleum officers approval. All tanks including derv are to be lowered onto a 150mm . thick rc. base and surrounded in min. 150 sulphate resisting concrete all to the approval of the local petroleum officer.

6. All tanks are to have new 600 x 600 Fibrelite FL1 covers and frames, colour:red complete with Fibresec mild steel saftey platforms size: 600 x 600 suspended on 4 no. m.s. galv. hangers and fitted 300mm below forecourt level. Where necessary Fibrelite FL3, 760 x 600 covers are to be fitted to offset fill mh's.

(colour:red).

7. Size of new tanks are to be confirmed by tank manufacturer prior to commencement of the works.

8. Pumps and self service equipment are to be supplied by the client and will be Tokheim Series 362 complete with 802 B/6 control unit etc.

9. All tanks are to be tested by the pipefitters when positioned and again prior to pipefitting. All to the approval of the local petroleum officer.

10. Where existing tanks are to be made safe they are to be dealt with strictly in accordance with the local petroleum officers requirements and the Health and Safety regulations.

KEY TO LINES.

Derv line.

99 or 98 Octane.

91 Octane line.

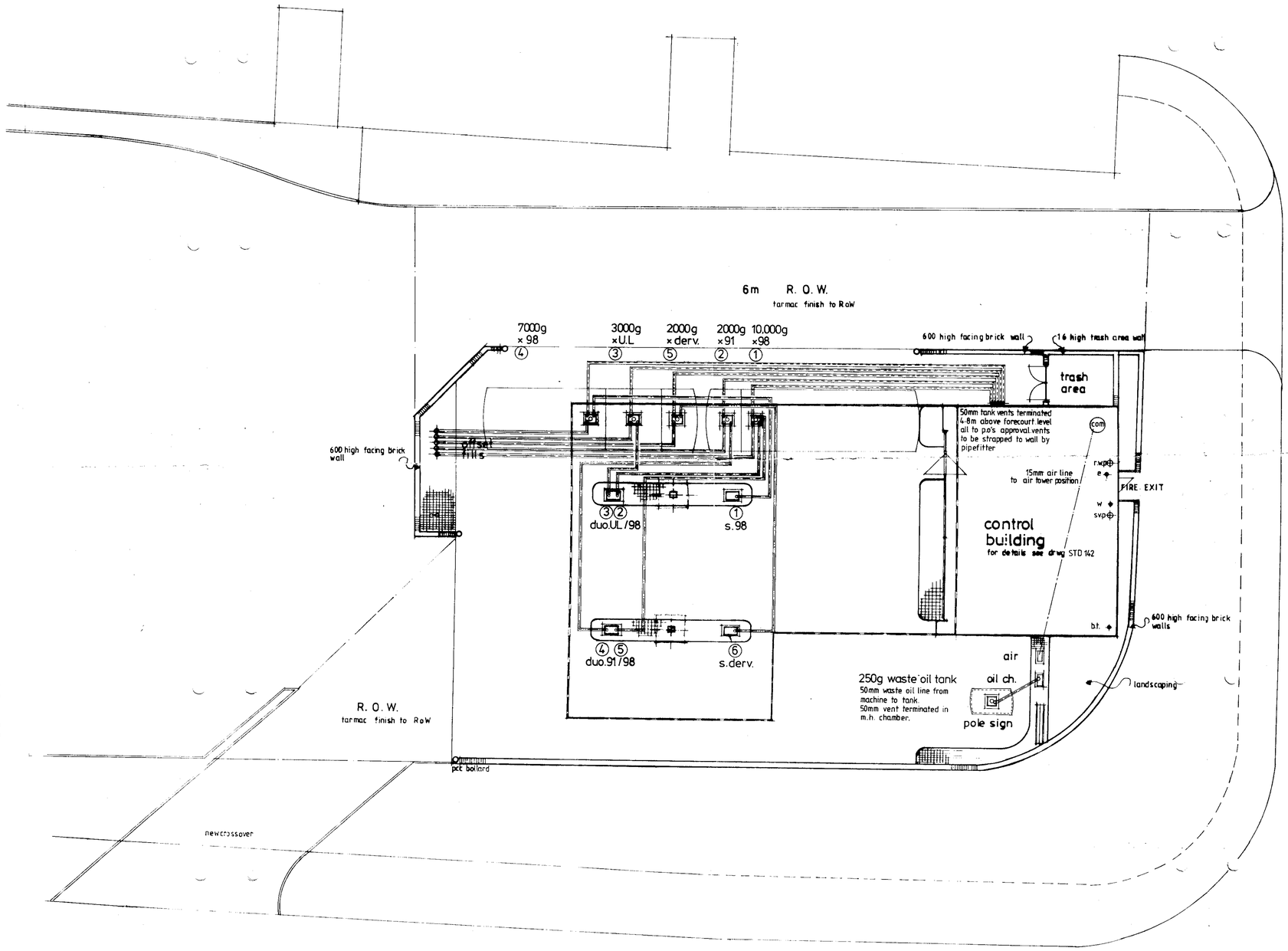
Unleaded line.

Tank vent line.

Offsetfill line.

Waste oil line.

Air line



DO NOT SCALE

AMENDMENTS

NO.	DATE	AMENDMENT	BY

NOTES

PROJECT
Proposed Development
Oldham Road
Manchester

TITLE
pipework + tank layout

SCALE 1:100	JOB NO. 1282
DATE April 88	
DRAWN M.C.	DWG. NO. 9
CLIENT	

CONQUEST DESIGNS LTD
CONQUEST HOUSE, ARTERIAL ROAD,
LAINDON, BASILDON, ESSEX SS15 6QP
LAINDON (0268) 540000

FOREST

Appendix B – Soil Validation Laboratory Results and Certificates

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 24/04421
Issue Number: 1 **Date:** 13 May, 2024

Client:
Geo2 Remediation Ltd
Coniston House,
Louisa Street
Bradford
BD10 8NE

Project Manager: Peter Phillips
Project Name: Reliance Street (RS)
Project Ref: 1435
Order No: 1435/LAB/PP
Date Samples Received: 02/05/24
Date Instructions Received: 03/05/24
Date Analysis Completed: 13/05/24

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/1	24/04421/2	24/04421/3	24/04421/4	24/04421/5	24/04421/6	24/04421/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V1	V2	V3	V4	V5	V6	V7			
Depth to Top	2.50	2.50	2.50	4.00	2.50	2.50	4.00			
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24			
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL			
Sample Matrix Code	6	6A	6A	6A	6A	6A	6A			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/1	24/04421/2	24/04421/3	24/04421/4	24/04421/5	24/04421/6	24/04421/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V1	V2	V3	V4	V5	V6	V7			
Depth to Top	2.50	2.50	2.50	4.00	2.50	2.50	4.00			
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24			
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL			
Sample Matrix Code	6	6A	6A	6A	6A	6A	6A			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	0.03	0.06	0.01	0.02	0.01	0.04	0.02	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A$$^{M\#}$	<1	<1	<1	1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A$$^{M\#}$	<1	1	4	2	4	1	4	mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	1	4	3	4	1	4	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A$$^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A$$^{\#}$	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	<1	1	<1	<1	2	mg/kg	1	A-T-055s
Aro >C16-C21$_A$$^{M\#}$	<1	1	<1	1	1	<1	2	mg/kg	1	A-T-055s
Aro >C21-C35$_A$$^{M\#}$	<1	2	2	2	4	1	4	mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	4	2	5	5	1	8	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	<1	5	6	8	8	2	12	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A$$^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A$$^{\#}$	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A$$^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A$$^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A$$^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A$$^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1				% w/w	0.1	A-T-044
Arsenic$_D$$^{M\#}$	-	-	-	8				mg/kg	1	A-T-024s
Barium$_D$	-	-	-	196				mg/kg	1	A-T-024s
Beryllium$_D$	-	-	-	0.7				mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	-	-	-	<1.0				mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	-	-	-	0.7				mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	-	-	-	36				mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	-	-	-	15				mg/kg	1	A-T-024s
Lead$_D$$^{M\#}$	-	-	-	257				mg/kg	1	A-T-024s
Mercury$_D$	-	-	-	1.22				mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	-	-	-	16				mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	-	-	-	<1				mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	-	-	-	21				mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	-	-	-	125				mg/kg	5	A-T-024s

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	-	-	-	Amosite						A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-						A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	Loose Fibres						A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	-	-	N/A						A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	-	0.012				% w/w	0.001	A-T-054

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
SVOC										
4-Bromophenyl phenyl ether$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Carbazole$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	-	-	<5000				µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	-	-	2050				µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	-	-	13800				µg/kg	100	A-T-052s
Acenaphthylene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Acenaphthene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Anthracene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	-	-	-	1170				µg/kg	100	A-T-052s

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
Benzo(b)fluoranthene$_A$	-	-	-	1470				µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	-	-	-	1210				µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	-	-	-	1520				µg/kg	100	A-T-052s
Chrysene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Fluoranthene$_A$	-	-	-	2170				µg/kg	100	A-T-052s
Fluorene$_A$	-	-	-	1350				µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Phenanthrene$_A$	-	-	-	3220				µg/kg	100	A-T-052s
Pyrene$_A$	-	-	-	3030				µg/kg	100	A-T-052s
Naphthalene$_A$	-	-	-	5410				µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Phenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Pentachlorophenol$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	-	-	-	<5000				µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Isophorone$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Hexachloroethane$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s
Perylene$_A$	-	-	-	<1000				µg/kg	100	A-T-052s

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
VOC										
Dichlorodifluoromethane$_A$	-	-	-	<5				µg/kg	1	A-T-006s
Chloromethane$_A$	-	-	-	<50				µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Bromomethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Chloroethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Carbon Disulphide$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Dichloromethane$_A$	-	-	-	<25				µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Bromochloromethane$_A^{\#}$	-	-	-	<25				µg/kg	5	A-T-006s
Chloroform$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^{\#}$	-	-	-	<10				µg/kg	2	A-T-006s
Benzene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Trichloroethene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Dibromomethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Bromodichloromethane$_A^{\#}$	-	-	-	<50				µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Toluene$_A^{\#}$	-	-	-	155				µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Tetrachloroethene$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Dibromochloromethane$_A^{\#}$	-	-	-	<15				µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
Chlorobenzene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	-	-	<5				µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	-	-	149				µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	-	-	485				µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	-	-	240				µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	-	-	<15				µg/kg	3	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	-	-	21				µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	-	-	<5				µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	-	-	76				µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	-	-	144				µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	-	-	<10				µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	-	-	583				µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	-	-	9				µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	-	-	<5				µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	-	-	<30				µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	-	-	<10				µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	-	-	<15				µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	-	-	<5				µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	-	-	<15				µg/kg	3	A-T-006s

Envirolab Job Number: 24/04421

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04421/8	24/04421/9	24/04421/10	24/04421/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V2-1	V2-2	V2-3	WAC-OT						
Depth to Top	2.00	1.50	1.50							
Depth To Bottom										
Date Sampled	30-Apr-24	30-Apr-24	30-Apr-24	30-Apr-24						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	6AE	6A	6	4AE						
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	0.36				mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	0.01	0.03	0.03	10.6				mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	53				mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	63				mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	106				mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	135				mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	1	<1	<1	5090				mg/kg	1	A-T-055s
Total Aliphatics$_A$	1	<1	<1	5460				mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	0.04				mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	1.69				mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	292				mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	271				mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	<1	214				mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1	<1	146				mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	<1	<1	102				mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	<1	<1	1030				mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	1	<1	<1	6480				mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	0.04				mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	1.69				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	0.02	<0.01	<0.01	1.09				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	3.44				mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	0.02	<0.01	<0.01	1.83				mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^{o}C / 11550µS/cm @ 20^{o}C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Geo2 Remediation Ltd, Coniston House,, Louisa Street, Bradford, BD10 8NE

Project No: 24/04421

Date Received: 03/05/2024 (am)

Project: Reliance Street (RS)

Cool Box Temperatures (°C): 18.1

Clients Project No: 1435

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	24/04421/1	24/04421/2	24/04421/3	24/04421/4	24/04421/5	24/04421/6	24/04421/7	24/04421/8	24/04421/9	24/04421/10	24/04421/11
Client Sample No											
Client Sample ID/Depth	V1 2.50m	V2 2.50m	V3 2.50m	V4 4.00m	V5 2.50m	V6 2.50m	V7 4.00m	V2-1 2.00m	V2-2 1.50m	V2-3 1.50m	WAC-OT
Date Sampled	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24
A-T-004s											10/05/2024
A-T-006s											09/05/2024
A-T-007s											10/05/2024
A-T-019s											08/05/2024
A-T-022s	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024
A-T-024s											09/05/2024
A-T-025w											10/05/2024
A-T-026w											10/05/2024
A-T-026w (F)											10/05/2024
A-T-027s											09/05/2024
A-T-030s											08/05/2024
A-T-031s											09/05/2024
A-T-031w											10/05/2024
A-T-032s											09/05/2024
A-T-032w											10/05/2024
A-T-037w											10/05/2024
A-T-044	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024
A-T-045											07/05/2024
A-T-050w											10/05/2024
A-T-052s											10/05/2024
A-T-054											13/05/2024
A-T-055s	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024
A-T-ANCs											08/05/2024
Calc											07/05/2024
Calc-As Recd	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024
Calc-no stones											10/05/2024
Probe (w)											10/05/2024

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 24/04560
Issue Number: 1 **Date:** 14 May, 2024

Client: Geo2 Remediation Ltd
Coniston House,
Louisa Street
Bradford
BD10 8NE

Project Manager: Peter Phillips
Project Name: Reliance Street (RS)
Project Ref: 1435
Order No: 1435/LAB/PP
Date Samples Received: 08/05/24
Date Instructions Received: 09/05/24
Date Analysis Completed: 14/05/24

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 24/04560

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04560/1	24/04560/2	24/04560/3	24/04560/4	24/04560/5	24/04560/6	24/04560/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V8	V3-1	V3-2	V4-1	V4-2	V4-3	V4-4			
Depth to Top	2.50	0.50	0.50	1.50	2.00	1.50	1.50			
Depth To Bottom										
Date Sampled	08-May-24	07-May-24	08-May-24	08-May-24	08-May-24	08-May-24	08-May-24			
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL			
Sample Matrix Code	6A	6AB	4AB	6A	6A	6A	6			
% Stones >10mm$_A$	<0.1	26.2	17.0	<0.1	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044

Envirolab Job Number: 24/04560

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04560/1	24/04560/2	24/04560/3	24/04560/4	24/04560/5	24/04560/6	24/04560/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V8	V3-1	V3-2	V4-1	V4-2	V4-3	V4-4			
Depth to Top	2.50	0.50	0.50	1.50	2.00	1.50	1.50			
Depth To Bottom										
Date Sampled	08-May-24	07-May-24	08-May-24	08-May-24	08-May-24	08-May-24	08-May-24			
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL			
Sample Matrix Code	6A	6AB	4AB	6A	6A	6A	6			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	7	<1	<1	<1	4	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	8	<1	<1	<1	5	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	7	7	10	1	<1	1	4	mg/kg	1	A-T-055s
Total Aliphatics$_A$	7	8	25	1	<1	1	13	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	2	6	<1	<1	3	4	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	3	3	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	2	7	<1	<1	1	4	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	6	14	<1	<1	<1	3	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	4	22	38	1	<1	<1	1	mg/kg	1	A-T-055s
Total Aromatics$_A$	4	31	65	1	<1	6	14	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	11	39	90	2	<1	8	27	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 24/04560

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04560/8	24/04560/9	24/04560/10	24/04560/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V4-5	Crush-1	Crush-2	Crush-3						
Depth to Top	2.50									
Depth To Bottom										
Date Sampled	08-May-24	07-May-24	07-May-24	07-May-24						
Sample Type	SOIL	SOLID	SOIL	SOIL						
Sample Matrix Code	6A	7	4AB	4ABE						
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1				% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	-	12.18^U	11.91	11.87				pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	-	0.01^U	0.01	0.18				g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	-	2900^U	2100	1900				mg/kg	200	A-T-028s
Sulphate BRE (total potential)$_D$	-	0.33	0.21	0.18				% w/w	0.03	A-T-024s
Sulphur BRE (total)$_D$	-	0.11	0.07	0.06				% w/w	0.01	A-T-024s
Arsenic$_D$$^{M\#}$	-	3^U	4	2				mg/kg	1	A-T-024s
Barium$_D$	-	73	76	40				mg/kg	1	A-T-024s
Beryllium$_D$	-	<0.5	<0.5	<0.5				mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	-	<1.0^U	<1.0	<1.0				mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	-	<0.5^U	<0.5	<0.5				mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	-	12^U	17	7				mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	-	20^U	12	8				mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	-	<1	<1	<1				mg/kg	1	A-T-040s
Chromium (trivalent)	-	20	12	8				mg/kg	1	Calc
Lead$_D$$^{M\#}$	-	37^U	44	20				mg/kg	1	A-T-024s
Mercury$_D$	-	<0.17	<0.17	<0.17				mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	-	11^U	10	5				mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	-	<1^U	<1	<1				mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	-	10^U	12	9				mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	-	62^U	50	46				mg/kg	5	A-T-024s

Envirolab Job Number: 24/04560

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04560/8	24/04560/9	24/04560/10	24/04560/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V4-5	Crush-1	Crush-2	Crush-3						
Depth to Top	2.50									
Depth To Bottom										
Date Sampled	08-May-24	07-May-24	07-May-24	07-May-24						
Sample Type	SOIL	SOLID	SOIL	SOIL						
Sample Matrix Code	6A	7	4AB	4ABE						
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	-	NAD	Amosite	Amosite						A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-						A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	Board	Board						A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	N/A	No	No						A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	<0.001	<0.001				% w/w	0.001	A-T-054

Envirolab Job Number: 24/04560

Client Project Name: Reliance Street (RS)

Client Project Ref: 1435

Lab Sample ID	24/04560/8	24/04560/9	24/04560/10	24/04560/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	V4-5	Crush-1	Crush-2	Crush-3						
Depth to Top	2.50									
Depth To Bottom										
Date Sampled	08-May-24	07-May-24	07-May-24	07-May-24						
Sample Type	SOIL	SOLID	SOIL	SOIL						
Sample Matrix Code	6A	7	4AB	4ABE						
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.05	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.05	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<10	2	<1				mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<10^U	7	1				mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	18^U	33	7				mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	2	35^U	39	14				mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	2	60^U	127	103				mg/kg	1	A-T-055s
Total Aliphatics$_A$	7	112	208	125				mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	132	10	11				mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<10	9	1				mg/kg	1	A-T-055s
Aro >C12-C16$_A$	1	<10	20	5				mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	1	16^U	19	10				mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	2	16^U	39	59				mg/kg	1	A-T-055s
Total Aromatics$_A$	5	164	96	86				mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	12	276	304	210				mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.05^U	0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.05^U	0.01	<0.01				mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01				mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25ºC / 11550µS/cm @ 20ºC fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Geo2 Remediation Ltd, Coniston House,, Louisa Street, Bradford, BD10 8NE

Project: Reliance Street (RS)

Clients Project No: 1435

Project No: 24/04560

Date Received: 09/05/2024 (am)

Cool Box Temperatures (°C): 17.0

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	24/04560/1	24/04560/2	24/04560/3	24/04560/4	24/04560/5	24/04560/6	24/04560/7	24/04560/8	24/04560/9	24/04560/10	24/04560/11
Client Sample No											
Client Sample ID/Depth	V8 2.50m	V3-1 0.50m	V3-2 0.50m	V4-1 1.50m	V4-2 2.00m	V4-3 1.50m	V4-4 1.50m	V4-5 2.50m	Crush-1	Crush-2	Crush-3
Date Sampled	08/05/24	07/05/24	08/05/24	08/05/24	08/05/24	08/05/24	08/05/24	08/05/24	07/05/24	07/05/24	07/05/24
A-T-022s	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024
A-T-024s									13/05/2024	14/05/2024	14/05/2024
A-T-026s									13/05/2024	13/05/2024	13/05/2024
A-T-027s									13/05/2024	13/05/2024	13/05/2024
A-T-028s									13/05/2024	14/05/2024	14/05/2024
A-T-031s									13/05/2024	13/05/2024	13/05/2024
A-T-040s									13/05/2024	13/05/2024	13/05/2024
A-T-044	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024
A-T-045									10/05/2024	10/05/2024	10/05/2024
A-T-054										13/05/2024	13/05/2024
A-T-055s	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024
Calc									13/05/2024	13/05/2024	13/05/2024
Calc-As Recd	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/2024

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

Final Test Report

Envirolab Job Number:	24/04421		
Issue Number:	1	Date:	10-May-24

Client: Geo2 Remediation Ltd
Coniston House,
Louisa Street
Bradford
BD10 8NE

Project Manager:	Peter Phillips
Project Name:	Reliance Street (RS)
Project Ref:	1435
Order No:	1435/LAB/PP
Date Samples Received:	2-May-24
Date Instructions Received:	3-May-24
Date Analysis Completed:	10-May-24

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:

Richard Wong
Client Manager

envirolab

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	24/04421/11						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				WAC-OT						
Depth to Top										
Depth to Bottom										
Date Sampled				30/04/2024						
Sample Type				Soil						
Sample Matrix Code				4AE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**9.87**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.36**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.08**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**NDP**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**5.21**				3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**26.2**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH_CU_1D_AL}$	A-T-007	N	N	**13800**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.350**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**8.09**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.010	0.008	0.022	**0.080**	0.5	2	25
Barium	A-T-025	N	N	0.039	0.031	0.085	**0.320**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.008	0.003	0.017	**0.040**	0.5	10	70
Copper	A-T-025	N	N	0.017	0.009	0.037	**0.100**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.008	0.002	0.017	**0.030**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.013	0.019	0.028	**0.190**	0.5	10	50
Antimony	A-T-025	N	N	0.005	0.002	0.011	**0.020**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.007	0.010	0.015	**0.100**	4	50	200
Chloride	A-T-026	N	N	2	<1.00	4	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	0.6	0.2	1.2	**2.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	30	3	66	**65**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	82	37	179	**428**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.02	<0.02	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	8.7	9.3					
Conductivity (µS/cm)	A-T-037	N	N	163	75					
Mass Sample (kg)				0.207						
Dry Matter (%)	A-T-044	N	N	84.4						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

Appendix C – Geotechnical

Environmental
Geotechnical
Specialists

LABORATORY REPORT

job number	C/4303/24/L/6572
date	07/05/2024
site address	Oldham Road Failsworth, Manchester, M40 1EZ
date scheduled	07/05/2024
date issued	07/05/2024
issued by	H J Letch

Please consider the environment before printing this report.

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QMS ISO 9001 : 2015 REGISTERED Cert No. 14123657

QMS ISO 14001 : 2015 REGISTERED Cert No. 14127804

QMS ISO 45001 : 2018 REGISTERED Cert No. 14130281

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Schedule of UKAS Accredited Laboratory Tests

1. CLASSIFICATION OF SOIL	BS 1377-2:1990	BS EN ISO 17892	Accredited (A)	Unaccredited (U)
1.1 Moisture / Water content determination				
i. Oven drying	Pt 2 : 3.2	Pt 1 : 2014 Pt 12 : 2018 : 5.3 / 5.5	A	
ii. Saturation m/c of chalk	Pt 2 : 3.3			U
1.2 Index Properties				
i. Liquid limit – cone penetrometer	Pt 2 : 4.3		A	
ii. Plastic limit	Pt 2 : 5.3		A	
iii. Shrinkage limit	Pt 2 : 6.3			U
iv. Linear shrinkage	Pt 2 : 6.5		A	
1.3 Particle Density				
i. Gas jar	Pt 2 : 8.2		A	
ii. Large pyknometer	Pt 2 : 8.3			U
iii. Small pyknometer	Pt 2 : 8.4	Pt 3 : 2015 : 5.1		U
1.4 Density Tests				
i. Linear measurement	Pt 2 : 7.2	Pt 2 : 2014 : 5.1	A	
ii. Immersion in water	Pt 2 : 7.3	Pt 2 : 2014 : 5.2		U
iii. Fluid / Water displacement	Pt 2 : 7.4	Pt 2 : 2014 : 5.3		U
iv. Sand replacement	Pt 9 : 2.1, 2.2			U
v. Core cutter	Pt 9 : 2.4			U
1.5 Particle Size Distribution				
i. Dry Sieve	Pt 2 : 9.2	Pt 4 : 2016 : 5.2	A	
ii. Wet Sieve	Pt 2 : 9.3	Pt 4 : 2016 : 5.2	A	
iii. Sedimentation by pipette	Pt 2 : 9.4	Pt 4 : 2016 : 5.3 / 5.4	A	
iv. Sedimentation by hydrometer	Pt 2 : 9.5			U
2. CHEMICAL TESTS	**BS 1377-3:2018**			
ii. Mass loss on ignition	Pt 3 : 4			U
3. COMPACTION RELATED TESTS	**BS 1377-4:1990**			
3.1 Dry density/moisture relationship				
i. 2.5kg rammer – 1 litre mould	Pt 4 : 3		A	
- CBR mould	Pt 4 : 3		A	
ii. 4.5kg rammer – 1 litre mould	Pt 4 : 3		A	
- CBR mould	Pt 4 : 3		A	
3.2 Moisture Condition Value				
i. Single point test	Pt 4 : 5.4			U
ii. MCV/moisture content relationship	Pt 4 : 5.5			U
3.3 California Bearing Ratio				
i. Undisturbed sample	Pt 5 : 7		A	
ii. Recompacted sample	Pt 5 : 7		A	
iii. Soaked, inc measurement of swell	Pt 5 : 7		A	
4. COMPRESSIBILITY OF SOIL	**BS 1377-5:1990**			
i. One dimensional consolidation	Pt 5 : 3		A	
ii. Swelling pressure test	Pt 5 : 3			U
5. SHEAR STRENGTH OF SOIL	**BS 1377-7:1990**			
i. Hand shear vane	Makers instructions			U
ii. Shear box (100mm square sample)	BS 1377 : Pt 7 : 4			U
iii. Triaxial – quick undrained	BS 1377 : Pt 7 : 8, 9		A	
6. PERMEABILITY				
i. Falling head	K. H. Head Vol 2			U
ii. Constant head	BS 1377 : Pt 6 : 6			U
iii Triaxial cell	BS 1377 : Pt 6 : 6			U
7. ROCK TESTS				
7.1 Classification Tests				
i. Natural moisture content	-			U
ii. Saturated moisture content	-			U
iii. Natural density	-			U
iv. Porosity	-			U
7.2 Strength Tests				
i. Point load index	ISRM '85			U
ii. Uniaxial compression test	ISRM '81			U

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RGS Environmental Geotechnical Specialists
Rogers Geotechnical Services Ltd
Offices 1 & 2 Barncliffe Business Park, Near Bank, Shelley, Huddersfield, HD8 8LU
01484 604354 Company No. 5130864

Disclaimer

The results reported herein relate only to the material supplied to the laboratory.

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INSITU TESTING RESULTS

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Rogers Geotechnical Services
Unit 4 Barncliffe Business Park , Shelley
Huddersfiled, HD88LU
Tel. 01484607977

TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	1
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	1		
GPS Coord's	W 2° 10' 52.8", N 53° 30' 11.6"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

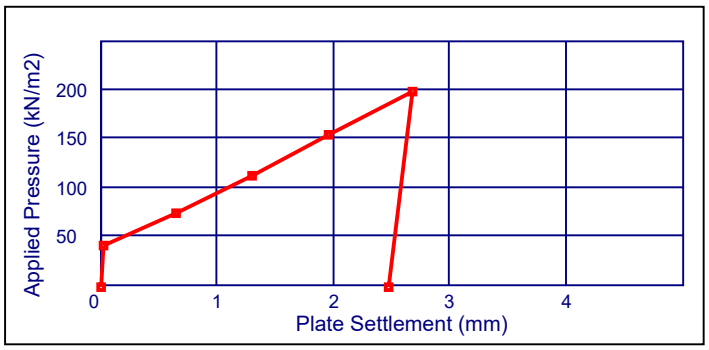
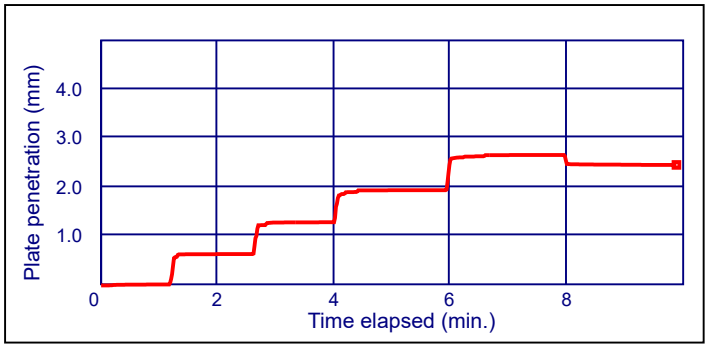


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.02	42.6
0.64	75.8
1.30	114.1
1.95	156.1
2.67	200.5
2.47	0.0



	Cycle 1
Maximum Applied Pressure (kPa):	**203**
Maximum deformation (mm):	**2.67**
Modulus of subgrade reaction K (MN/m3):	**89.1**
K762 (MN/m3):	**55.5**
Estimated CBR (%):	**10**

Comments:

Approved Signature
Rogers Geotechnical Services
Mr H J Letch
Technical Laboratory Manager

Plate Load - Tested in accordance with BS 1377 : Part 9 C
Moisture Content - Tested in accordance with BS 1377 : P
Opinions and interpolations expressed herein are outside the scope of UKAS acceditation

Rogers Geotechnical Services
Unit 4 Barncliffe Business Park , Shelley
Huddersfiled, HD88LU
Tel. 01484607977

TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	2
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	2		
GPS Coord's	W 2° 10' 53.0", N 53° 30' 11.3"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

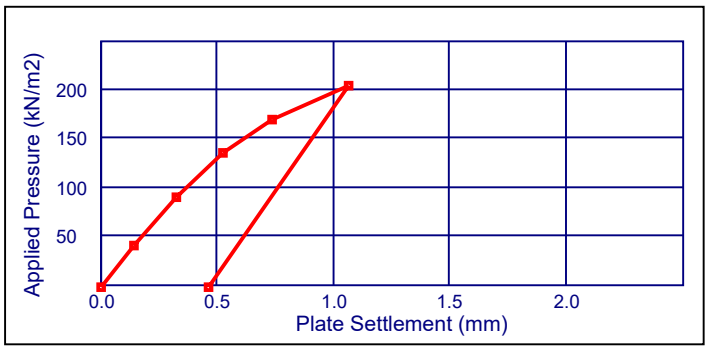
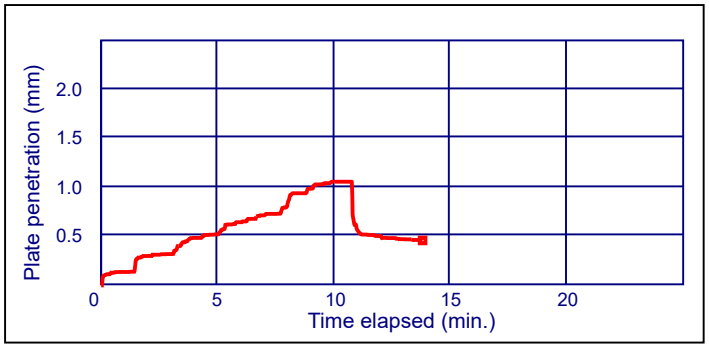


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.14	42.7
0.32	92.1
0.52	137.6
0.73	171.7
1.06	206.5
0.46	0.0



	Cycle 1
Maximum Applied Pressure (kPa):	**209**
Maximum deformation (mm):	**1.06**
Modulus of subgrade reaction K (MN/m3):	**181.1**
K762 (MN/m3):	**112.8**
Estimated CBR (%):	**35**

Comments:

Approved Signature
Rogers Geotechnical Services
Mr H J Letch
Technical Laboratory Manager

Plate Load - Tested in accordance with BS 1377 : Part 9 C
Moisture Content - Tested in accordance with BS 1377 : P
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TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	3
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	3		
GPS Coord's	W 2° 10' 53.8", N 53° 30' 11.4"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

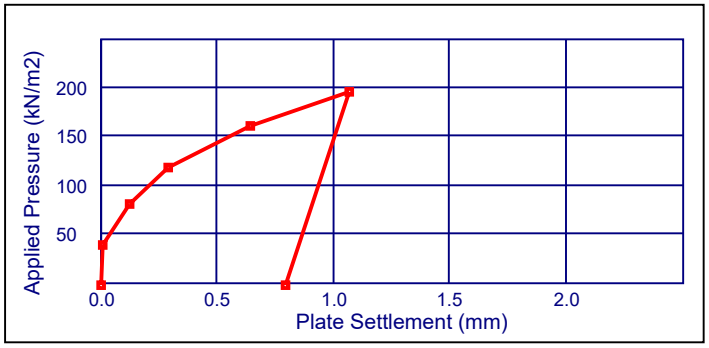
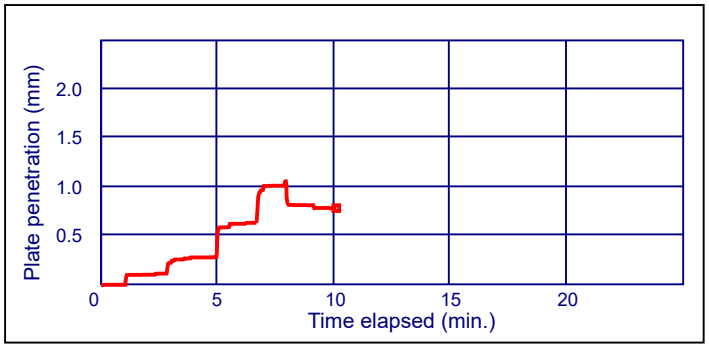


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.01	41.2
0.12	83.1
0.29	120.6
0.64	163.2
1.07	198.1
0.79	0.0



	Cycle 1
Maximum Applied Pressure (kPa):	**201**
Maximum deformation (mm):	**1.07**
Modulus of subgrade reaction K (MN/m3):	**170.6**
K762 (MN/m3):	**106.3**
Estimated CBR (%):	**31**

Comments:

Approved Signature
Rogers Geotechnical Services
Mr H J Letch
Technical Laboratory Manager

Plate Load - Tested in accordance with BS 1377 : Part 9 C
Moisture Content - Tested in accordance with BS 1377 : P
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TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	4
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	4		
GPS Coord's	W 2° 10' 53.3", N 53° 30' 11.4"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

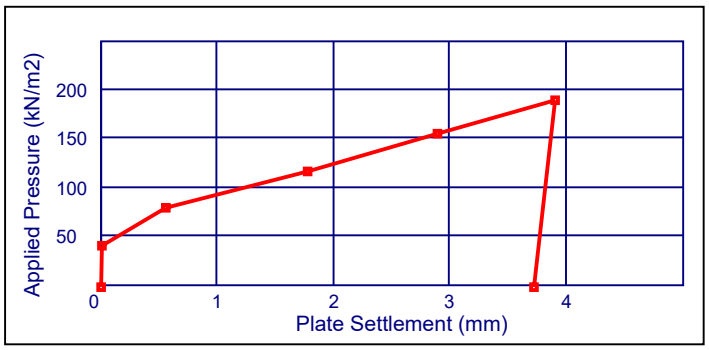
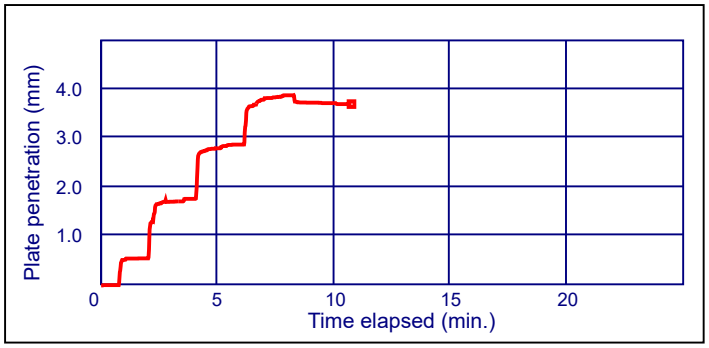


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.01	42.4
0.55	81.3
1.77	118.5
2.89	157.3
3.90	191.6
3.72	0.0



	Cycle 1
Maximum Applied Pressure (kPa):	**194**
Maximum deformation (mm):	**3.90**
Modulus of subgrade reaction K (MN/m3):	**82.0**
K762 (MN/m3):	**51.1**
Estimated CBR (%):	**8.8**

Comments:

Approved Signature
Rogers Geotechnical Services
Mr H J Letch
Technical Laboratory Manager

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TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	5
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	5		
GPS Coord's	W 2° 10' 53.1", N 53° 30' 11.7"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

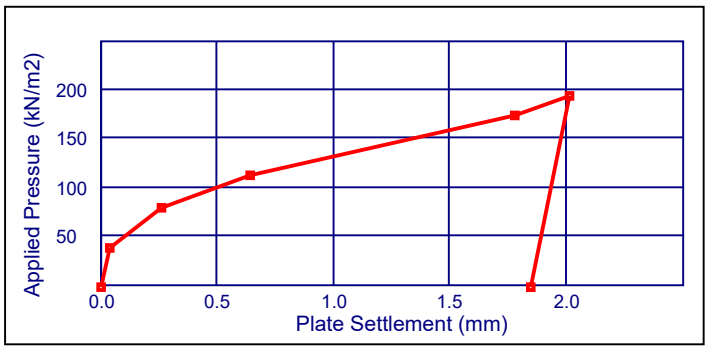
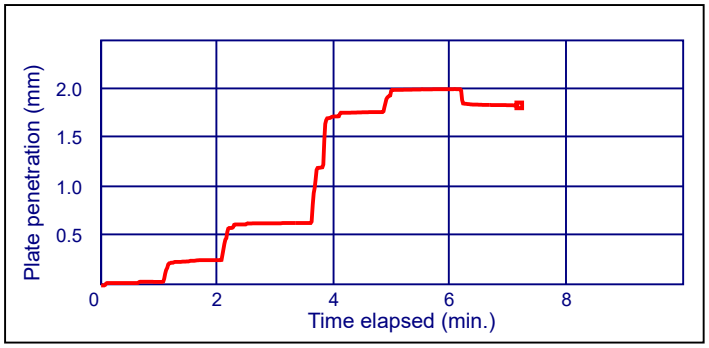


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.04	40.2
0.26	81.4
0.64	114.7
1.78	176.0
2.01	196.1
1.85	0.0



	Cycle 1
Maximum Applied Pressure (kPa):	**199**
Maximum deformation (mm):	**2.01**
Modulus of subgrade reaction K (MN/m3):	**118.1**
K762 (MN/m3):	**73.6**
Estimated CBR (%):	**17**

Comments:

Approved Signature
Rogers Geotechnical Services
Mr H J Letch
Technical Laboratory Manager

Plate Load - Tested in accordance with BS 1377 : Part 9 C
Moisture Content - Tested in accordance with BS 1377 : P
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TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	6
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	6		
GPS Coord's	W 2° 10' 53.3", N 53° 30' 11.3"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

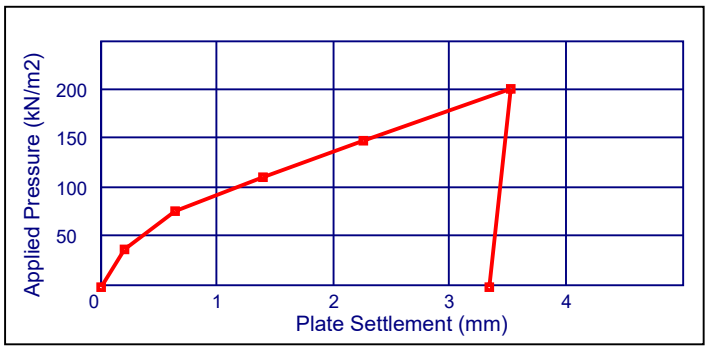
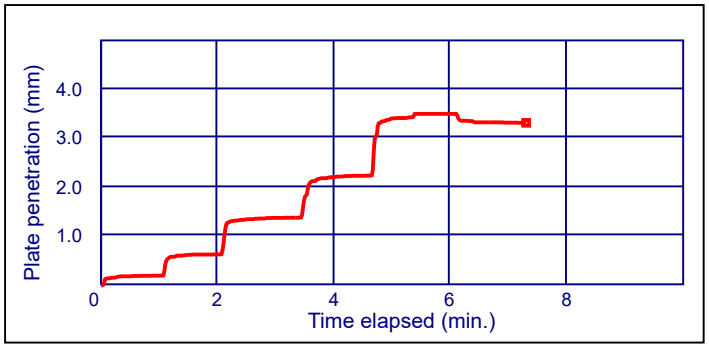


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.20	38.7
0.64	78.0
1.39	112.7
2.25	150.0
3.52	203.2
3.33	0.0



	Cycle 1
Maximum Applied Pressure (kPa):	**206**
Maximum deformation (mm):	**3.52**
Modulus of subgrade reaction K (MN/m3):	**85.0**
K762 (MN/m3):	**53.0**
Estimated CBR (%):	**9.4**

Comments:

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Rogers Geotechnical Services
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Technical Laboratory Manager

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TEST REPORT
PLATE LOADING TEST

Project	Reliance Street	**Test No:**	7
Client	Geo2	**Lab Ref No:**	C/4303/24/L/6572
		Date Reported	07.05.24
		Weather Conditions	Dry
Technician	HJL/MT	**Air Temperature °C**	16

Date Tested	07.05.24	**Plate Dia (mm)**	450
Location	7		
GPS Coord's	W 2° 10' 52.7", N 53° 30' 11.6"	**Depth (m)**	0
Material Type	6F2	**Reaction Type**	14t
No Cycles	1	**App Weight (kg)**	40

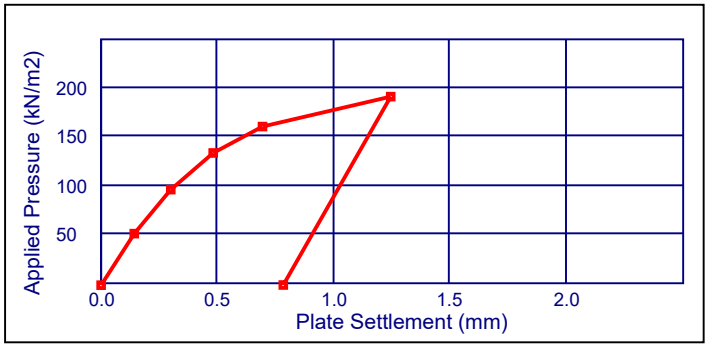
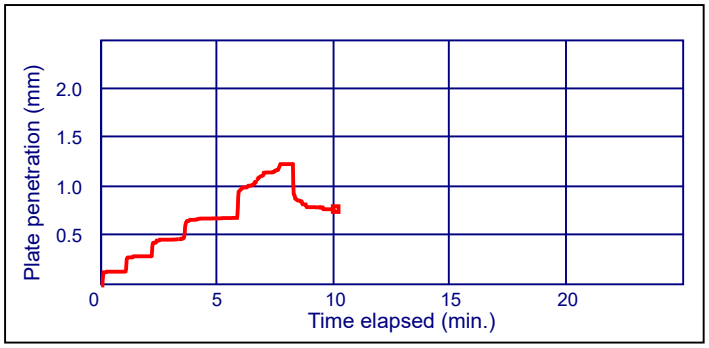


Plate Settlement (mm)	Applied Pressure (kN/m2)
0.00	0.0
0.14	52.9
0.30	97.9
0.48	135.4
0.69	162.5
1.24	193.3
0.78	0.2



	Cycle 1
Maximum Applied Pressure (kPa):	**196**
Maximum deformation (mm):	**1.24**
Modulus of subgrade reaction K (MN/m3):	**154.9**
K762 (MN/m3):	**96.5**
Estimated CBR (%):	**27**

Comments:

Approved Signature
Rogers Geotechnical Services
Mr H J Letch
Technical Laboratory Manager

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Moisture Content - Tested in accordance with BS 1377 : P
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End of Report

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LABORATORY REPORT

job number	C/4303/24/L/6572
date	07/05/2024
site address	Oldham Road Failsworth, Manchester, M40 1EZ
date scheduled	07/05/2024
date issued	07/05/2024
issued by	H J Letch

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ii. Saturation m/c of chalk	Pt 2 : 3.3			U
1.2 Index Properties				
i. Liquid limit – cone penetrometer	Pt 2 : 4.3		A	
ii. Plastic limit	Pt 2 : 5.3		A	
iii. Shrinkage limit	Pt 2 : 6.3			U
iv. Linear shrinkage	Pt 2 : 6.5		A	
1.3 Particle Density				
i. Gas jar	Pt 2 : 8.2		A	
ii. Large pyknometer	Pt 2 : 8.3			U
iii. Small pyknometer	Pt 2 : 8.4	Pt 3 : 2015 : 5.1		U
1.4 Density Tests				
i. Linear measurement	Pt 2 : 7.2	Pt 2 : 2014 : 5.1	A	
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iv. Sand replacement	Pt 9 : 2.1, 2.2			U
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i. Dry Sieve	Pt 2 : 9.2	Pt 4 : 2016 : 5.2	A	
ii. Wet Sieve	Pt 2 : 9.3	Pt 4 : 2016 : 5.2	A	
iii. Sedimentation by pipette	Pt 2 : 9.4	Pt 4 : 2016 : 5.3 / 5.4	A	
iv. Sedimentation by hydrometer	Pt 2 : 9.5			U
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3. COMPACTION RELATED TESTS	**BS 1377-4:1990**			
3.1 Dry density/moisture relationship				
i. 2.5kg rammer – 1 litre mould	Pt 4 : 3		A	
- CBR mould	Pt 4 : 3		A	
ii. 4.5kg rammer – 1 litre mould	Pt 4 : 3		A	
- CBR mould	Pt 4 : 3		A	
3.2 Moisture Condition Value				
i. Single point test	Pt 4 : 5.4			U
ii. MCV/moisture content relationship	Pt 4 : 5.5			U
3.3 California Bearing Ratio				
i. Undisturbed sample	Pt 5 : 7		A	
ii. Recompacted sample	Pt 5 : 7		A	
iii. Soaked, inc measurement of swell	Pt 5 : 7		A	
4. COMPRESSIBILITY OF SOIL	**BS 1377-5:1990**			
i. One dimensional consolidation	Pt 5 : 3		A	
ii. Swelling pressure test	Pt 5 : 3			U
5. SHEAR STRENGTH OF SOIL	**BS 1377-7:1990**			
i. Hand shear vane	Makers instructions			U
ii. Shear box (100mm square sample)	BS 1377 : Pt 7 : 4			U
iii. Triaxial – quick undrained	BS 1377 : Pt 7 : 8, 9		A	
6. PERMEABILITY				
i. Falling head	K. H. Head Vol 2			U
ii. Constant head	BS 1377 : Pt 6 : 6			U
iii Triaxial cell	BS 1377 : Pt 6 : 6			U
7. ROCK TESTS				
7.1 Classification Tests				
i. Natural moisture content	-			U
ii. Saturated moisture content	-			U
iii. Natural density	-			U
iv. Porosity	-			U
7.2 Strength Tests				
i. Point load index	ISRM '85			U
ii. Uniaxial compression test	ISRM '81			U

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Disclaimer

The results reported herein relate only to the material supplied to the laboratory.

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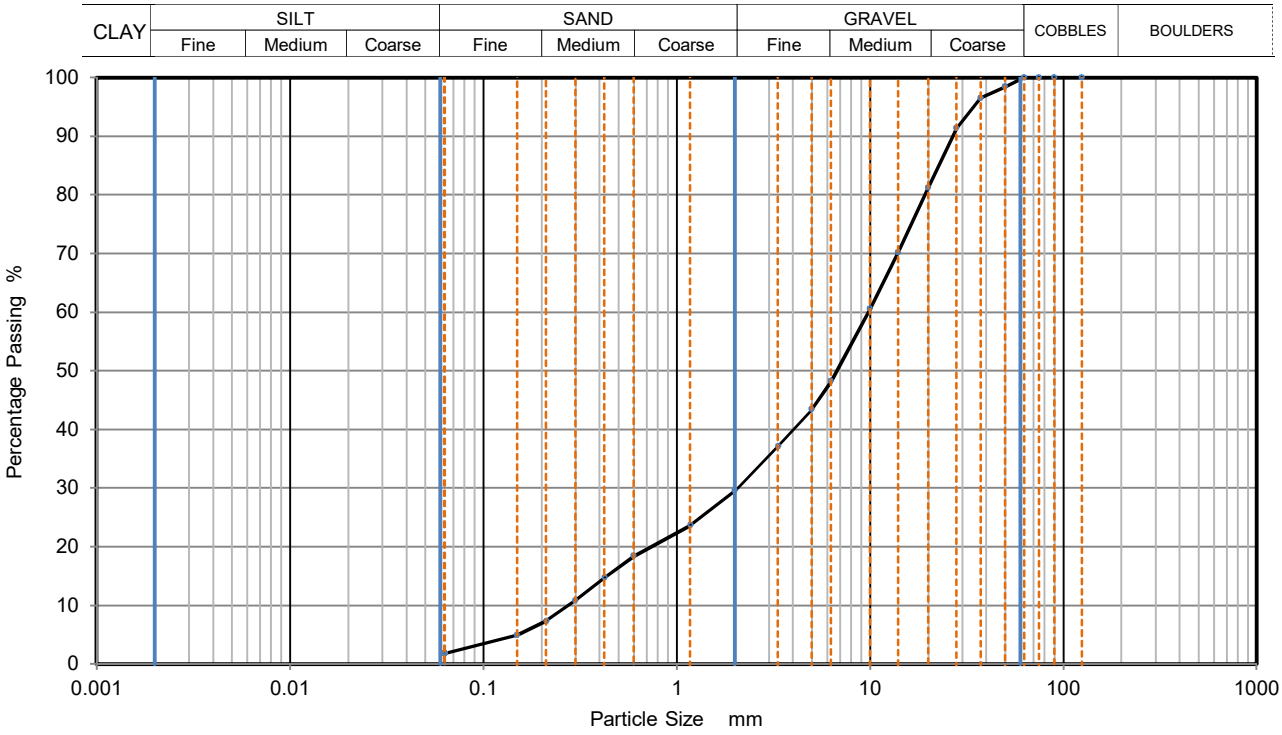
RGS	**PARTICLE SIZE DISTRIBUTION**			Job Ref	**C/4303/24/L/6665**
				Borehole/Pit No.	Sample 1
Site Name	Reliance Street and Oldham Road			Sample No.	1
Soil Description	Grey sandy GRAVEL.			Depth, m	0.00
Specimen Reference	1	Specimen Depth	0 m	Sample Type	B
Test Method	ISO 17892 -4, by sieving on pre-dried or dry sample			KeyLAB ID	RGS_202405100



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	98		
37.5	97		
28	91		
20	81		
14	70		
10	61		
6.3	48		
5	43		
3.35	37		
2	30		
1.18	24		
0.6	18		
0.425	15		
0.3	11		
0.212	7		
0.15	5		
0.063	2		

Dry Mass of sample, g	11165

Sample Proportions	% dry mass
Very coarse	0
Gravel	70
Sand	28
Fines <0.063mm	2

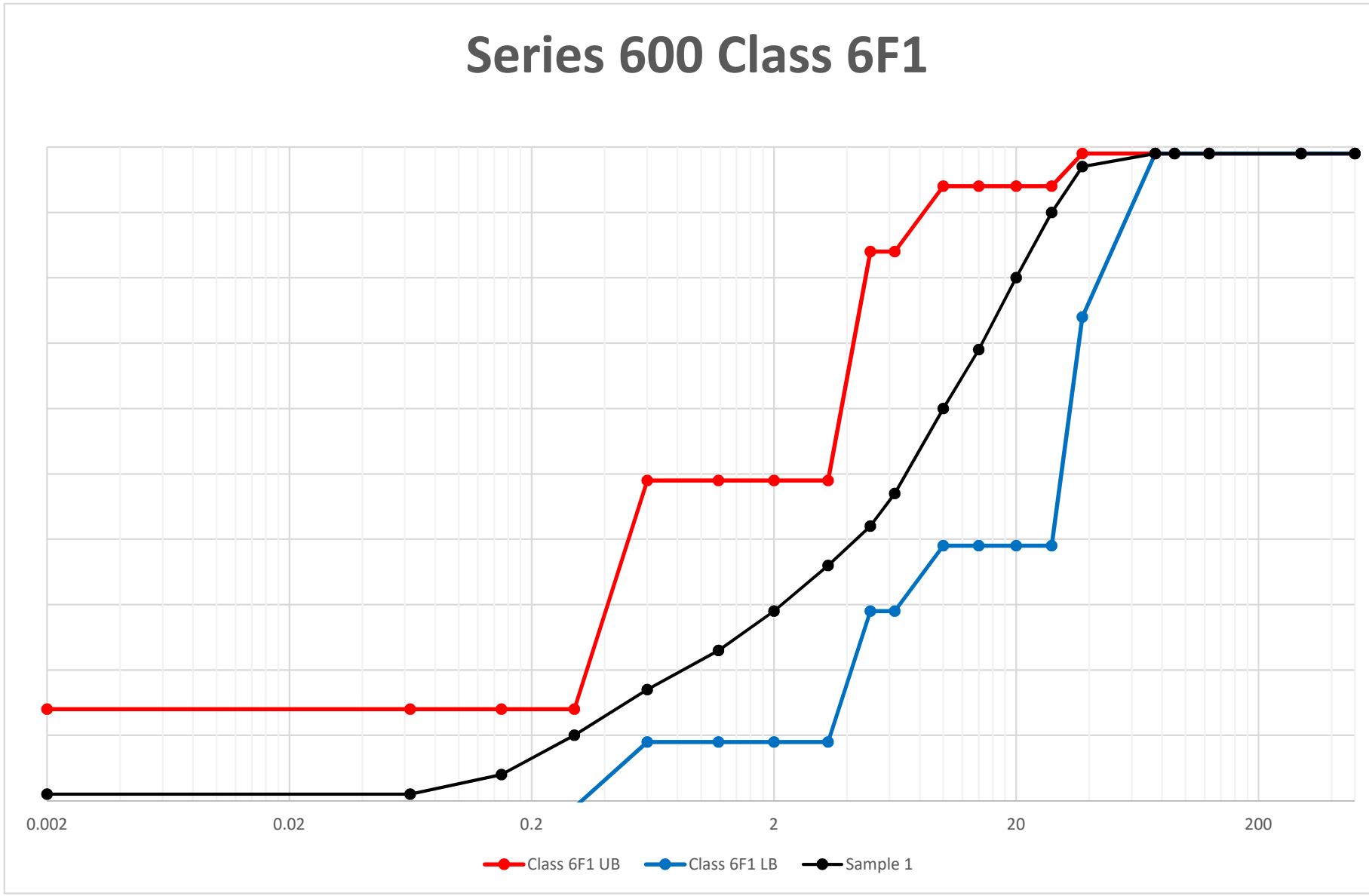
Grading Analysis		
D_{100}	mm	63
D_{60}	mm	9.82
D_{30}	mm	2.08
D_{10}	mm	0.277

Remarks

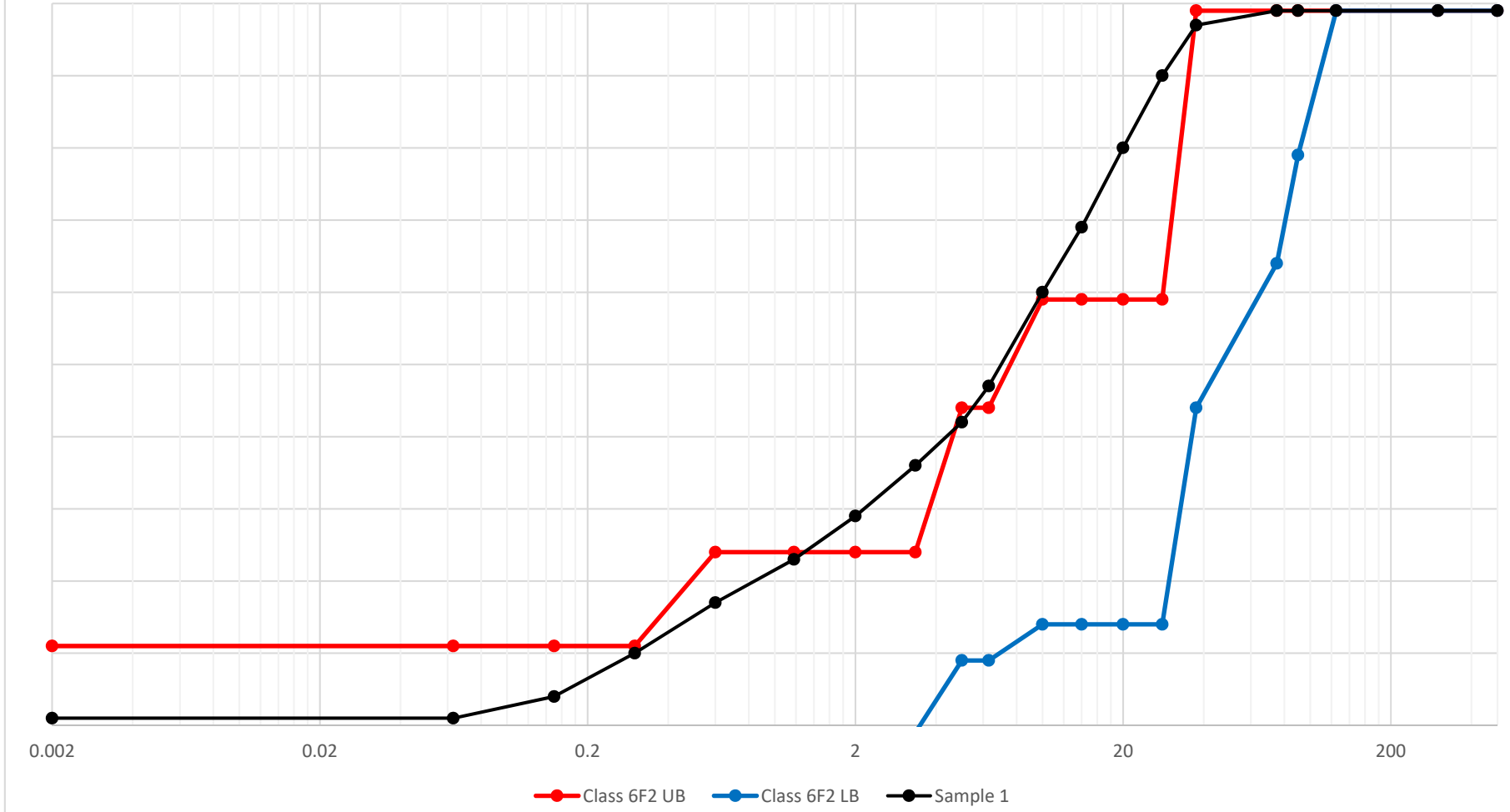
Preparation and testing in accordance with BS EN ISO 17892 - 4, unless noted below

Test performance date: 10/05/2024

Operator	Checked	Approved	Sheet printed	Fig 1
Harry	Harry	Harry	10/05/2024	Sheet 1


Series 600 Class 6F1
0.002
0.02
0.2
2
20
200
Class 6F1 UB
Class 6F1 LB
Sample 1

Series 600 Class 6F2



End of Report

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Appendix D – Waste Exemption

Waste exemption registration WEX399788

We confirm that the details you have entered, as shown below, are now on the exemptions register. Your registration should show on the public register within 24 hours. Your registration details, including contact, site and business addresses are below.

This document is not a permit. Exemptions may have ceased or been revoked.

To check whether these exemptions are still valid, check the company's registration WEX399788 on the public register of waste exemptions: https://environment.data.gov.uk/public-register/view/search-waste-exemptions

Business responsibilities

The business or organisation responsible for carrying out the exempt waste operations agrees to:

- comply with all limits on waste types and quantities
- comply with all conditions governing how waste must be stored, handled and treated
- carry out the operations without endangering human health or harming the environment

For the operations to remain exempt they must be carried out without:

- causing risk to water, air, soil, plants or animals
- causing a nuisance through noise and odours
- negatively affecting the countryside or places of special interest

In sensitive locations, extra controls may be needed over and above those set out in the exemptions to make sure this happens.

Registration details

Registration details

Reference Number	WEX399788
Date registered	25 March 2024

Waste exemptions

U1: Use of waste in construction	Expires on 24 March 2027

Your contact details

Your name	Peter Phillips
Your telephone number	01132575397
Your email address	peter.phillips@geo2.co.uk

Waste operator details

Business or organisation type	Limited company
Waste operator responsible for these waste operations	GEO2 REMEDIATION LIMITED

Address of the Waste operator	CONISTON LOUISA STREET BRADFORD BD10 8NE

Waste operations contact

Name	Peter Phillips
Position	Project Manager
Telephone number	01132575397
Email	peter.phillips@geo2.co.uk
Address	CONISTON LOUISA STREET BRADFORD BD10 8NE

Waste operation details

Grid reference	SD 88074 00733
Site details	Demolished historical petrol filling station immediately north-west of the junction between Reliance Street and Oldham Road.

Appendix E – Photolog

1435 – Oldham Road – Photographic Survey 1

Image 1: Pre-works site condition

Image 2: Pre-works site condition

Image 3: Pre-works site condition

Image 4: Pre-works site condition

Image 5: Pre-works site condition

Image 6: Pre-works site condition

1435 – Oldham Road – Photographic Survey 2

Image 7: Commenced breaking out

Image 8: Tank excavation

Image 9: Tank exposure

Image 10: Tank foams

Image 11: Crushing works

Image 12: Continued crushing

1435 – Oldham Road – Photographic Survey 3

Image 7: Removed waste oil tank	**Image 8**: Removed Waste oil tank	**Image 9**: Removal of fuel lines
Image 10: Vac tanker removal of interceptor contents	**Image 11**: Breaking out of interceptor	**Image 12**: Removal of interceptor

1435 – Oldham Road – Photographic Survey 4

Image 13: CBR plate testing

Image 14: Off-site disposal works

Image 15: Finished site condition

Image 16: Finished site condition

Image 17: Finished site condition

Image 18: Finished site condition