

Provectus

Victoria North NT02 to NT04

**Factual report covering works April to
October 2024**

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Section 1: Background and brief summary of works

Provectus Remediation Ltd were commissioned by BAM to undertake remediation works on Plots NT02 to NT04, off Dantzic St in Manchester. The works were undertaken in two phases, the first smaller portion in April 2024 involving the removal of Japanese Knotweed-impacted surface material from NT04, with the remaining works being undertaken between May and November 2024.

This document should be viewed alongside the following reports:

- "Phase 2 Site Investigation, Plots NT02, NT03 & NT04 Dantzic Street" (4328-ROC-ZZ-XX-RP-ES-P2-101).
- "Plots NT02, NT03 & NT04 Dantzic Street, Phase 3a Detailed Remediation Strategy Report".
- "Enabling Works Performance Specification PLOTS NT02, NT03 & NT04 NORTHERN GATEWAY" (RDB-ROC-XX-XX-SP-C-0600).
- Pile mat temporary works design "VNIF-BNL-ZZ-YYY-CT-WS-0004".

The works can be summarised as follows:

- Removal of materials from site. This phase involved the removal from site of ~26,000m³ of materials from the site. This includes:
 - ~2,750m³ of materials classified as hazardous,
 - ~16,300m³ classified as non-hazardous,
 - ~750m³ of TCE impacted material, predominantly non-hazardous,
 - ~3,200m³ of site-won 6F2 and ~80 loads of concrete and tarmac (~700m³),
 - ~2,000m³ of Japanese knotweed-impacted materials.Details of this can be found in Section 2.
- The reprofiling and upfilling of portions of the site surface, including both permanent and temporary works. This was undertaken concurrently with the removal works and involving the construction of access roads and pile mat for the construction of a piled retaining wall along the site's southern boundary. Following the completion of the piling works, approximately 11,000m³ of materials will require removal from the site (works to be completed in 2025). Portions of this material could be classified as hazardous.
- Remediation, validation and backfill of a hotspot of TCE contamination identified in site investigation works. *This aspect of the site works is covered as a separate entity in Section 3.*
- Remediation and validation of several known and unknown tanks and other buried structures, including areas of unexpected asbestos-containing materials encountered during excavation works. These are summarised in Section 4.
- Removal of buried obstructions, including redundant foundations and drainage runs. These are summarised in Section 5.

Works to remove the temporary piling platform for the retaining wall are not covered by this report. It is understood that these works will be undertaken in 2025, with an anticipated removal volume of ~11,000m³ (excluding pile arisings). Details of the cut and fill data can be found in Appendix D.



Section 2: Waste disposal

As described previously, materials were excavated from across NT02, NT03 and NT04, with excavations proceeding to the final levels described in the site model. Works were undertaken in two phases, the first in April 2024 that involved the removal from site of several stockpiles created from site surface scrapes of Japanese Knotweed-impacted soils (works undertaken by others). The second phase was undertaken between May and November 2024.

The waste classifications of the soils were based upon results gained from the site investigation report “Phase 2 Site Investigation, Plots NT02, NT03 & NT04 Dantzic Street” (4328-ROC-ZZ-XX-RP-ES-P2-101). With the exception of the Japanese Knotweed-impacted materials; the TCE-impacted material identified in NT02 (see Section 3); any unexpected asbestos materials encountered (see Section 4.2); or any expected or unexpected hydrocarbon-impacted materials (see Sections 4.1 and 4.2), *the determining factor for the removal of any materials, hazardous or otherwise, was its presence vis à vis the final site levels.*

Those materials identified as contaminated were typically impacted with heavy metals, predominantly copper, lead and zinc, this being the predominant driver for the hazardous classification of some of the materials.

This impact was typically associated with surface/near-surface fill materials, with these materials having a graded-type appearance with small fragments of plastic and glass present. These materials have been referred to as “trommel fines” and appear to have been subject to some form of processing or are the result of road sweeping operations. Based upon the heavy metal presence, as above some further classification to confirm the hazardous status of the materials was also undertaken by *in situ* XRF analysis (see Appendix Ab).

The order in which the excavation proceeded across the majority of site was determined by site access factors etc, although works were restricted on NT04 by the archaeological excavations (see Section 6) and the presence of live MP gas apparatus. Based on this, exportation of soil materials from site was not undertaken at continual rate and varied significantly (as can be seen in the sampling frequencies described in Table 2).

With regards to the May to November 2024-phase of works, differentiation between hazardous and non-hazardous soil materials identified on NT03 and NT04 was undertaken by the identification of the stratum from which the hazardous samples were collected. These strata were then visually chased as far as practicable and loaded for disposal at a separate hazardous waste disposal or processing facility. Materials exported included both ‘surface’ fill materials as well as the underlying and occasionally reworked ‘naturally’ occurring brown silty-clay materials. Materials designated for disposal as hazardous are described in drawings within Appendix D.

These volumes can be summarised in Table 1 below. All soil volumes are based on a ‘per load’ basis, either an 8-wheeled rigid tipper (~9m³) or an articulated tipper (~14m³, usage dependent upon access to that portion of the site).



<i>Material</i>	<i>Haz vs non-haz¹</i>	<i>Area of site</i>	<i>Receiving facility</i>	<i>Approx volume²</i>
Japanese knotweed material ³	Haz	NT04 surface scrape	NRS Meriden	~1,990m ³
Japanese knotweed material ⁴	Non-haz	NT04 surface scrape	Fletcher Bank	~250m ³
Fill materials	Haz	NT04	White Moss	~95m ³
Fill materials	Haz	NT03	NRS Meriden	~600m ³
Fill materials	Non-haz	NT04	Fletcher Bank and Ashton Old Road	~18,080m ³
Fill materials with visible asbestos ⁵	Haz	NT04	PRL Rowley Regis	~150m ³
Hydrocarbon impacted materials ⁶	Haz	NT02	PRL Maw Green	~110m ³
TCE material	Non-haz	NT02	Fletcher Bank	~740m ³
TCE material drainage run	Haz	NT02	PRL Rowley Regis	~27m ³
Waste concrete	Non-haz	Site wide ⁷	Miles Platten	59 loads ⁸⁹
Tarmac	Non-haz	Site wide, majority NT03 and NT04 ¹⁰	Miles Platten	20 loads ⁷

Table 1

¹ As determined by the site investigation results.

² Based upon size of wagon. Note waste stream could include transportation by both 8-wheeler and articulated wagon.

³ Resulting from a site surface scrape, scraped and stockpiled by others, April 2024. Includes materials identified within the original site investigation report as “hazardous”.

⁴ Again, resulting from a site surface scrape, scraped and stockpiled by others, April 2024

⁵ Described further in Section 4.

⁶ Includes both known and unknown hydrocarbon- impacted materials, as well as impacted oversize materials see Section 4.

⁷ Does not include materials crushed for 6F2, see Section 7. Majority of this excavated post-demob of the crusher.

⁸ Based upon vehicle weight, not volume

⁹ Includes one partial load of concrete crushed to 6F2 that presented slight asbestos contamination, see Section 7.

¹⁰ Includes all former site access roads etc.



Table 1 above does not include those waste materials encountered during site works e.g. waste tyres or green waste etc., although these are included in the waste transfer notes. All waste transfer notes can be found at this online location:

https://proventusgroup-my.sharepoint.com/:x:/p/tony_walton/ETlugznKcthNvOmVnTohgSUB-33em8hboqYK9iTnLOdDiQ?rtime=o4qTq6kl3Ug



Section 2.1 Samples collected

A total of 57 “export” samples were collected for laboratory analysis from across the site. These consisted of materials destined for off-site disposal, collected either at the point of loading to confirm their hazardous or non-hazardous designation, or to fill in data gaps to aid classification prior to disposal (e.g. samples “SP1 to SP6” as part of report 24-032291).

An additional 77 samples were also collected for either *in situ* or *ex situ* XRF analysis for heavy metal content: 70 of these samples were collected from stockpiles of Japanese Knotweed impacted materials that resulted from surface scrapes across NT04 undertaken by others. This correlated with the original hazardous vs non-hazardous designation of the Japanese Knotweed stockpiles made by others. The remaining seven XRF analyses were undertaken on materials in stockpiles on the NT04/NT03 boundary.

Additional samples were also collected of materials of unexpected contamination e.g. those ‘fines’ soil materials excavated alongside asbestos fragments (see Section 4.2): this enabled classification of the soils once the asbestos had been removed at the treatment facility.

All export samples are summarised in Table 2 below. All samples labelled as “export” met the threshold for non-hazardous soil materials: these samples were collected to confirm the differentiation process between hazardous and non-hazardous soil materials identified on NT03 and NT04 was being undertaken effectively.

Samples labelled “haz export” or similar were collected either prior to disposal to confirm their hazardous classification, or to confirm the hazardous assessment procedure was effective. Those labelled “TCE export” were collected post-excavation and stockpiling to confirm this material’s non-hazardous classification.

The number of samples collected approximately correlated with recommended sampling frequency described in *Technical guidance WM3*, namely one sample per 500m³ removed from site.

Chemical laboratory analyses and rationale are described in sample tracker within Appendix A (note that Table 2 below is an excerpt from this). Environmental permits for the receiving facilities are included in Appendix F.

Date Sampled	Sample Type	Location	ID	Rational	Report ref	Comments
25/03/2024	XRF			haz export	PRL	XRF analysis
02/04/2024	XRF		Victoria North	haz export: Japanese Knotweed stockpile samples	Victoria North	70x XRF samples of samples of the Japanese knotweed stockpiles. Materials stockpiled by others, materials sampled at/near surface
20/05/2024	soil		asb stock 1	hazardous export	24-021274	material sent to Rowley Regis...HM required for ERQ license
20/05/2024	soil		small piles 1	export	24-021274	first export of materials...not on SI, transferred to this location by BAM
20/05/2024	soil		small piles 2	export	24-021274	first export of materials...not on SI, transferred to this location by BAM
23/05/2024	soil		export A	export	24-023325	
24/05/2024	soil		export B	export	24-023323	
28/05/2024	soil		export C	poss haz export	24-023320	
29/05/2024	soil		export D	export	24-023322	
03/06/2024	soil		export030624	haz export	24-023319	
07/06/2024	soil		export070624	export	24-024257	
12/06/2024	Soil	NT02 SP	ES1	TCE export	24-025303	TCE soil stockpiled after excavation
12/06/2024	Soil	NT02 SP	ES2	TCE export	24-025303	TCE soil stockpiled after excavation
12/06/2024	Soil	NT02 SP	ES3	TCE export	24-025303	TCE soil stockpiled after excavation
12/06/2024	Soil	NT02 SP	ES4	TCE export	24-025303	TCE soil stockpiled after excavation
12/06/2024	Soil	NT02 SP	ES5	TCE export	24-025303	TCE soil stockpiled after excavation
12/06/2024	Soil	NT02 SP	ES6	TCE export	24-025303	TCE soil stockpiled after excavation

Table 2



Date Sampled	Sample Type	Location	ID	Rational	Report ref	Comments
12/06/2024	Soil	NT02 SP	ES7	TCE export	24-025303	TCE soil stockpiled after excavation
13/06/2024	Soil	NT02 SP	ES8	TCE export	24-025309	TCE soil stockpiled after excavation...this pile considered for reuse, actually exported
13/06/2024	Soil	EX SP	Export110624	export	24-025308	
13/06/2024	Soil	EX SP	Export130624	haz export	24-025307	
17/06/2024	Soil	EX SP	EXPORT170624	haz export	24-026245	
17/06/2024	Soil	EX SP	EXPORT170624 B	export	24-026201	
18/06/2024	Soil	EX SP	EXPORT180624	export	24-026198	
19/06/2024	Soil	EX SP	EXPORT190624	export	24-026199	
20/06/2024	Soil	EX SP	EXPORT200624	export	24-026672	
21/06/2024	Soil	EX SP	EXPORT210624	export	24-026673	
27/06/2024	Soil	EX SP	EXPORT270624	export	24-028511	
28/07/2024	Soil	EX SP	EXPORT280624	export	24-028513	
01/07/2024	Soil	EX SP	EXPORT010724	export	24-029487	
03/07/2024	Soil	EX SP	EXPORT030724	export	24-029488	
04/07/2024	Soil	EX SP	EXPORT040724	export	24-029489	
05/07/2024	Soil	EX SP	EXPORT050724	export	24-029490	
08/07/2024	Soil	EX SP	EXPORT080724	export	24-030451	
09/07/2024	Soil	EX SP	EXPORT090724	export	24-030449	
11/07/2024	Soil	EX SP	EXPORT110724	export	24-030453	
16/07/2024	Soil	reuse	export160724haz	export	24-031424	ramp HAZ export
17/07/2024	Soil	reuse	export170724haz	export	24-031424	ramp HAZ export

Table 2 cont'



Date Sampled	Sample Type	Location	ID	Rational	Report ref	Comments
19/07/2024	soil	export	SP1	haz export	24-032291	samples of the 'ramp material' where data gaps are apparent...reflects material both exported and reused in the upfill...deemed HAZ to visual similarity to other haz materials
19/07/2024	soil	export	SP2	haz export	24-032291	
19/07/2024	soil	export	SP3	haz export	24-032291	
19/07/2024	soil	export	SP4	haz export	24-032291	
19/07/2024	soil	export	SP5	haz export	24-032291	
19/07/2024	soil	export	SP6	haz export	24-032291	
22/07/2024	soil	export	export220724	export	24-033073	
27/08/2024	Soil	export	export270824	export	24-039166	
29/08/2024	asbestos		ACM1	haz export/ disposal	24-039166	ACM ID from material found in plinth...collected to confirm NNLW remedial works at facility
29/08/2024	Soil	export	export290824	export		
30/08/2024	Soil	export	export300824	export		
02/09/2024	Soil	export	export020924	export		
03/09/2024	Soil	export	export030924	export		
04/09/2024	Soil	export	export040924	export		

Table 2 cont'

Section 3 TCE area: Introduction

This portion of the report covers the excavation and validation of a soil-phase chlorinated solvent hotspot encountered during the site investigation works. *The majority of this information in Section 3 has been previously issued as “Interim TCE validation report, NT02 Victoria, Issued August 2024”.*

The investigation identified an area of chlorinated solvents within soil materials in the southernmost corner of NT02, believed linked to historical uses of the site (see 4328-ROC-ZZ-XX-RP-ES-P2-101 R3). This area was covered by a concrete floor slab and bounded on two sides by a retaining wall to the southeast with a car garage; the neighbouring building site to the immediate southwest; and the remainder of NT02 to the northeast and northwest. Any groundwater impact will be dealt with by others.

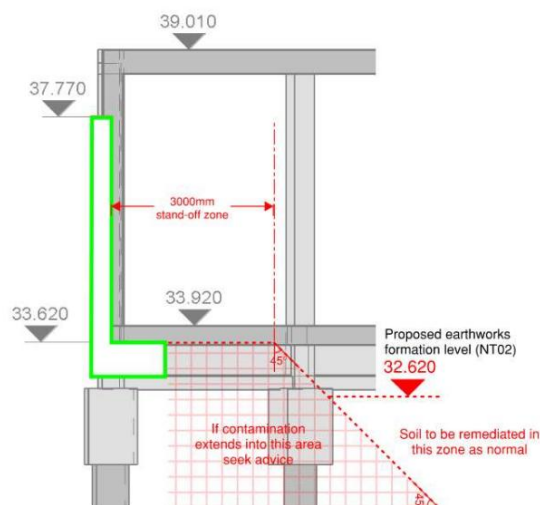
Subsequent DQRA works reported L2 soil RTVs for TCE and CCl₄ at 0.224mg/kg and 0.116mg/kg: these are included within the remediation strategy 11834 R02 (02).

Exceedances of these RTVs were observed in the following locations:

- WS302 at 1.5m bogl (0.602mg/kg)
- WS304 at 0.5m bogl (0.23mg/kg)
- WS305 at 1.0m bogl (0.427mg/kg)
- WS308 at 0.6m and 1.0m bogl (max 1.13mg/kg)

As described above, these exceedances were encountered at the southern end of NT02, with WS308 being immediately adjacent to the garage retaining wall. The proximity of this garage retaining wall to the proposed excavation works necessitated a temporary works design, effectively giving a 3m standoff from the wall plus an allowance for a batter from existing floor slab level to the formation level (effectively no excavation works ~5m from the wall).

Note that certain samples collected during the site investigation also revealed the presence of elevated hydrocarbons: stockpiled materials were also assessed for the presence of these materials prior to their disposal offsite, see Section 3.1 below.



(as taken from p2 4328-ROC-2B-XX-TN-S-0001 NT02)



Section 3.1: Excavation works

The first round of excavation works was undertaken in mid-June 2024 and involved the saw cutting of the existing concrete slab at ~1.2m from the site perimeter, followed by the breaking and removal of the concrete floor slab. This slab removal was restricted to the southernmost floor slab 'terrace' of NT02, with the remaining areas awaiting demolition.

Excavation works were undertaken under the supervision of a PRL engineer and initially involved the removal of all soil materials down to the formation (~32.6m), with this material being stockpiled on the remaining extant 'lower terraces' of the NT02 floor slabs. Since there was no obvious PID, olfactory or visual evidence of chlorinated solvent impact, further excavations of the visually-undisturbed soil materials were based upon the soil results of the site investigation i.e. those concentrations observed in WS302, WS304 and WS305 (with WS308 remaining within the 5m standoff from the garage retaining wall).

The groundwater monitoring boreholes RBH203, RBH501 and RBH502 were to remain *in situ* for future monitoring: the materials around these boreholes were excavated as far as practicable. An unknown borehole was also encountered just inside the standoff in the southernmost corner of NT02 during the excavation: it was assumed that this borehole was RBH302. This was also retained for future decommissioning.

The vertical extent of these excavations extended to an average of 32m, although the exact elevation was determined by local conditions e.g. areas of obvious granular material were also excavated. Based upon the volumes of the stockpiles, a total of ~360m³ of material was excavated from this area. This was tested for waste classification purposes, with analysis including heavy metals and hydrocarbons as well as halogenated compounds (see samples "ES1 to ES7" and "ES8", see reports 24-025303 and 24-025309) and covered with visqueen sheeting.

These materials were removed from site on Wednesday 26th June (39x loads) and Thursday 27th June (10x loads) to a licensed landfill facility as non-hazardous soil material.

Validation samples were collected from the sides and the base of the excavation at the discretion of the engineer, with side samples collected at the same depth as the materials encountered during the site investigation works where possible (see samples "NT02/A to NT02/M", see report 24-025376). Further samples were collected at formation level from the western end of the excavation to verify absence from this area (~32.6m, see samples "NT02 TCE 1 and 2" as part of report 24-029493).

The receipt of the analyses revealed that samples NT02/F, NT02/G and NT02/L returned concentrations of TCE in exceedance of the RTV (310mg/kg, 330mg/kg and 340mg/kg). These samples were in the northernmost edge of the excavation, and this necessitated further horizontal and vertical excavation works in this area.

Note that although the site investigation works identified the presence of TCE at 0.6m and 1.0m bogl in WS308, sample NT02/C was collected from 32.2m in the excavation at the closest point to WS308. This sample did not reveal concentrations of TCE exceeding the RTVs, suggesting that the impact observed in WS308 may be localised to this immediate area as opposed part of a larger issue.

These materials identified in the region of NT02/F, NT02/G and NT02/L were excavated and loaded straight onto wagons for disposal at the same landfill facility, typically to a depth of 31.4m but extending to 31m where drainage runs were encountered, see below.



A total of 33x loads were removed as part of this phase (~310m³, Tuesday 9th July). A redundant drain was also noted immediately below this area: this was also chased and stockpiled on/under visqueen. A total of 3x loads were removed as part of drainage chasing on Tuesday 11th July: as a precaution, this material was removed as hazardous waste to a licensed hazardous waste treatment facility.

Further validation samples were collected from the base and sides of the excavation (see samples "NT02 TCE 3 to 7", see report 24-030450). These confirmed remaining soils did not exceed the RTVs. As a precaution, additional samples were collected from trial pits excavated past the northern elevation of the main TCE hotspot excavation (see samples "TCE TP 1 to 3", as part of reports 24-031424 and 24-032291). These confirmed TCE impact did not extend past the extents of the excavation.

Copies of the stockpile and validation analytical results and drawings are included within Appendix J.



Section 3.2: Air monitoring works

Due to the potential adverse health effects from chlorinated solvent vapours upon site workers and members of the public/neighbours, several types of air monitoring were undertaken. These included the use of PIDs to measure real-time total photo ionisable vapours (effectively any VOC with a C=O or C=C bond), as well as hand pumps with TCE-specific “Dräger” absorption tubes for real-time TCE vapour concentrations. No significant qualitative PID or quantitative TCE vapours were observed at any point during either round of excavation works.

Additionally, air was sampled during both phases of excavation works using “Tenax” carbon absorption tubes for *ex situ* lab analysis. A pump was placed on top of RBH203 and this allowed a comparison of the actual airborne VOC concentrations with the PID and Dräger measurements (see reports 11484.1 for the first round and 11732-1 for the second round). These Tenax tubes were also compared to a background measurement made in this location prior to the start of works (early May, see report 11105-2).

The results of the background analysis revealed the predominant peaks present within the atmosphere at this location were long-chain and branched aliphatics and simple aromatics, including some PAHs. The predominant species was benzoic acid. Whilst there could be natural and anthropogenic local sources for the benzoic acid, it is likely the majority of the aliphatics and aromatics originated from the five chambered tank nearby (known to contain degraded fuel and oil-related hydrocarbons: an odour was obvious in this area).

Analysis of the samples collected during the first round of excavation again revealed the presence of benzoic acid and aliphatics and aromatics as well as TCE vapours. Concentrations of TCE did not exceed 1,400ng on the tube, converted to a concentration of 6.24mg/kg. Note that the 8hr TWA for TCE is 550mg/kg. These concentrations did not pose a risk to human health and a release of vapours at these concentrations is to be expected given the volume of soil excavated.

The second round of excavation works did not reveal the presence of any TCE vapours although as previous, benzoic acid, and aliphatics and aromatics including naphthalene were also observed. These concentrations reflect the fact that the majority of the TCE impacted materials were excavated as part of the first round of excavation works. As before, these concentrations did not pose a risk to human health.

All analysis is included within Appendix A. All samples are described in sample tracker within Appendix Aa.



Section 3.3 Backfill

Upon completion of the excavation and the receipt of the validation samples, the area was backfilled and compacted to formation level with a suitable material as part of filling operations undertaken across the wider NT02 site.

The material used in this backfilling operation was Class 1A ash fill material that originated from an area in centre of NT03. This material was excavated and passed through a 60mm screen to remove oversized materials. Subsequent geotechnical classification of this material designated it as Class 1A (see PSD determination C1087613 / 299203.3.1.1). This material was placed in $\leq 275\text{mm}$ layers and compacted using a 13t vibrator roller with four passes (as per Method 2, Table 6/4 S600).

As part of the upfilling of the wider area, several samples of this post-screened ash fill material were submitted for laboratory analyses (see samples “ash fill” and “ash fill 1 to 5” as part of reports 24-024257 and 24-031413). These analyses confirmed the material’s chemical suitability when compared to the site-wide reuse criteria described within the remediation strategy 11834 R02 (02).

Approximate layers of 275m^3 of the ash fill material were used during the backfilling of this TCE portion of NT02, with an average fill depth of $\sim 600\text{mm}$ (although this was varied between 200mm and 1m in places).

All analysis is included within Appendix A. All samples are described in sample tracker within Appendix Aa. Copies of the backfill compaction certificates are included within Appendix B.



Section 4: Additional areas of remedial works

Several areas of the site were subject to additional remediation works, both expected i.e. previously identified underground tanks, as well as unexpected remediation works. These can be summarised as follows:

Section 4.1: Areas of expected remedial works

Tank in close proximity to the MP gas main, southern end of NT03 (“small tank”)

A small tank was identified within a few metres of the MP gas main’s entry point at the southern boundary of NT03. This tank was constructed of concrete, with approximate dimensions of 2m L x 1.1m W x 1.2m D, orientated E-W. The tank contained ~0.9m of sludge: this was sampled prior to the start of works in March 2024 and was found to be impacted with high RMM aliphatic and aromatic hydrocarbons (likely linked to residual oil-related impact as well as degraded organic matter), as well as some low level BTEX and other fuel-related ‘sweet’ aromatics (see sample “LFT01 Contents”, report 24-011519 with Appendix Ac).

Remediation works to demolish this tank, and identify and removal any surrounding impact were undertaken in early July 2024. These works were undertaken under the supervision of Cadent operatives when the gas main was still live. The contents of the tank and soils from the immediate vicinity of the tank were removed from site as hazardous waste and transferred to PRL Maw Green (one load ~9m³). The concrete sides and base were transferred to the concrete stockpile for crushing (see Section 7).

Validation samples were collected from the sides and base of this excavation to confirm any residual materials were below appropriate validation criteria (see samples “small tank N, E, S, W and base” on report 24-029493).

A vibration meter was placed on the gas main during this phase of works. No significant vibration was noted during the works. This is discussed further in Section 11.

Photographs are included within Appendix E.

Five-chambered tank also in close proximity to the MP gas main, southern end of NT03

This tank was also in the vicinity of the MP gas main’s entry point at the southern boundary of NT03. This tank also lay directly in the path of the MP gas main’s redirection. The tank consisted of five separate chambers that appeared to be fed from the “small tank” described above. It is thought likely that the “small tank” and the five chambered tank were part of a solids catchment pit system.

Samples collected in March 2024 by others revealed relatively high organic matter, zinc and high RMM aliphatic and aromatic hydrocarbons. The samples also revealed significant concentrations of para & meta-xylene in one of the chambers (but curiously no apparent ortho-xylene). Impacted water was also present within the tanks (see report 24-03082.1).

Remediation works were started in late June 2024, by which point dry weather meant the contents had dried and no water was present. These materials were excavated and the tank was found to be ~300mm deep. The contents were removed from site and transferred



to PRL Maw Green (one load ~9m³), whilst the walls and base were demolished. The concrete sides and base were transferred to the concrete stockpile for crushing (see Section 7).

Validation samples were collected the sides and base of the excavation to confirm any residual materials were below appropriate validation criteria (see samples “5C tank N, E, S, W and base” on report 24-026674).

Drainage from both these tanks was chased as part of works described in Section 5 below. Photographs are included within Appendix E.

Single chamber interceptor

Another underground tank was identified in close proximity to the MP gas main in NT03. Initial visual assessments from the surface suggested this was a fibreglass single chambered interceptor in a drainage line not connected to the “small tank” and “five-chamber tank” described previously.

Samples of the aqueous contents and what appeared to be a dark sludge at the top of the tank were collected in mid-May when the tank was first identified (see samples “Int Sludge” and “Tank Water” as part of report 24-020519).

Whilst the sludge appeared contaminated with some high RMM aliphatic and aromatic hydrocarbons, as well as PAHs (as indicated by the high RMM aromatics), PAH ratio plots indicated the presence of coal ash within the sludge. The water within the vessel did not contain any significant impact. This water was removed as part of works described below as “NT02 tank on W boundary” tank in Section 4.2 below.

Due to the proximity and assumed depth of the tank in relation to the MP gas main, these works were postponed until the gas main had been redirected and the pipe decommissioned. Once decommissioning was complete, the site surface was removed and excavations commenced. What was assumed to be a fibreglass single chamber interceptor was in fact a brick chamber with a fibreglass turret, and the ‘sludge’ sampled represented a tidemark of material apparently washed into the drainage system. As such, the volumes of this material were minimal and amounted to a mere few kgs of material. As such, further works were not required and the brick sides and concrete base were transferred to the concrete stockpile for crushing (see Section 7).

Photographs are included within Appendix E.

Vehicle wheel wash

An underground structure was identified in the middle of NT03 in what was once a tarmac road running E-W linked to the concrete plant that occupied this portion of the site. The structure was approximately 3.1m L x 2m W x 1.2m D, orientated N-S, with a portion of the structure covered by steel plates. There was ~300mm of visually and olfactorily unimpacted wet brown silt in the base: PID assessments also indicated no volatiles were present.

Works to demolish this structure were undertaken in mid-July 2024 and involved the removal of the steel covers and excavation of the wet contents. During this phase, a second, similarly proportioned underground structure was also identified to the east of the first tank. This contained a similar volume of visually and olfactorily unimpacted wet brown silt. The contents of both tanks were excavated and removed from site for geotechnical purposes: as a precaution due to their potential organic matter content, these materials were exported to PRL Rowley Regis in late July.



The redundant structures were then demolished and transferred to the concrete stockpile for crushing (see Section 7). The holes were backfilled and compacted with non-cohesive granular material.

Photographs are included within Appendix E.

Section 4.2: Areas of unexpected remedial works

Several areas of unexpected contaminated materials and tanks were encountered during the works. These were encountered during excavation works where the site surface was being reduced, or when redundant slabs were being demolished. In this eventuality, works typically were suspended until appropriate remedial options could be considered.

“NT02 Tank”

This tank was encountered immediately below the redundant factory floor slab on the western boundary of NT02, approximately halfway along the boundary. It was identified when the slab was broken and a void encountered immediately below the floor slab. Once the slab was removed, this tank/void was ~5.5m L x 2.0m W x 2m D, orientated SW to NE.

The western ‘wall’ of the tank was effectively the boundary wall where NT02’s western boundary meets the 2m deep dividing ‘trench’ between NT02 and the neighbouring FEC building site. The walls were found to be rendered brick with an obvious hydrocarbon staining or a bituminous coating.

The tank/void was found to contain ~1m of visibly oily water, equivalent to ~10m³. Since this water was effectively perched ~1m above the boundary trench that separated NT02 from the neighbouring FEC site, any failure of the western wall of the tank/void would lead to the loss of ~10m³ of impacted water, with it potentially migrating directly downhill on the surface to the River Irk (downhill ~120m across hardstanding to the north).

Due to this unacceptable risk of escape if the wall were to collapse, especially after the demolition of the floor overlying slab that could have provided surface stability, the water was vacuum tankered off site as hazardous liquid waste without analysis on the 21st June¹¹.

Once empty, the walls and floor slab were demolished, these were transported to Maw Green as hazardous waste as a precaution, as opposed to being transferred to the concrete stockpile for crushing. The sides and base were then validated as samples “NT02 Tank, N, E, S and base¹²”. These samples revealed any residual materials were below appropriate validation criteria. The excavation was backfilled as the rest of NT02.

Photographs are included within Appendix E.

¹¹ As described in Section 4.1, clean water within the single chamber interceptor was also removed at this time.

¹² Note no “W” sample was collected since the western elevation of the tank formed the wall of NT02’s boundary trench



Identification of asbestos-containing materials within fill

The first area of asbestos containing soil material was identified during site levelling to the immediate east of the Dulwich St access on NT04 when the area was being levelled for the site compound in mid-May 2024.

This material consisted of ~7m³ of asbestos cement bonded roofing material buried immediately below the existing site surface. This was excavated with appropriate dust-minimisation precautions, and transferred to a separate quarantine area in NT02 to await testing (see sample “asb stock 1”, report 24-021274). The soil materials were chased until the asbestos-containing materials were visibly absent from the soil.

Soil materials containing asbestos cement bonded roofing material were also encountered during works by Cadent to demolish a concrete plinth on the southern boundary of NT02 as part of gas pipe diversion works. This plinth was immediately south of the five-chambered tank described in Section 4.1.

Samples were collected of both the unweathered asbestos cement bonded roofing material and the soils in which this material resided. These were samples “under plinth” and “ACM1”¹³ of report “24-039166”).

Once the top of the plinth had been demolished, the underlying soil materials were found to contain unweathered yet broken asbestos cement bonded roofing materials. These were chased with care by PRL under Cadent supervision (due to the proximity of the MP gas main), as part of a total of 11 loads¹⁴ being exported to PRL Rowley Regis, see Table 1 in Section 2.

Although not strictly a soil contamination issue, remediation works were also required in a third area, albeit an area where asbestos was known to be present, where an asbestos cement water main was known to be present. This pipe ran parallel to the MP gas main described previously, so the removal of this pipe could not occur until the MP main was diverted and decommissioned.

Removal works were undertaken in October 2024, and once the water main was disconnected at the site boundary, involved the careful chasing, uncovering and removal of intact sections of the water pipe by suitability qualified personnel. These pipe sections were placed in a sealed asbestos skip and removed from site to an appropriate facility. The excavation was backfilled and compacted with suitable granular fill material.

Photographs, appropriate laboratory analyses and location plans are included within Appendices E, A and D respectively.

¹³ Collected to confirm NNLW remedial works at facility sufficient

¹⁴ Includes both 8-wheelers and artics



Section 5: Removal of buried obstructions

Prior to the start of remedial works, significant portions of NT02 and NT03 were covered in hardstanding, either as redundant floor slabs across NT02, or as concrete and tarmac roads across NT03. *Unless specifically designated for removal, the earthworks specification stated that any obstruction encountered at formation was to be chased and removed. No surface to sub-surface turnover was to be undertaken.*

These roads and floor slabs were broken, removed and transferred to a stockpile area in NT03. Tarmac was removed separately and moved to different areas to maintain segregation (see Section 7 below).

Once the slabs were removed, any redundant foundations and drain runs were chased and removed, with the largest concentration of obstructions encountered on the central portion/'terrace' of NT02. These obstructions typically ranged from a floor slab level of ~32mAOD to a maximum of ~30mAOD for redundant stanchion bases and ring beams etc.

Once uncovered and broken, these were excavated and removed to the stockpile to await crushing. Where necessary, riddle buckets were used to minimise the transferred of the underlying fines to the stockpile (this is discussed further in Section 7 below).

Further obstructions were also encountered on NT04, again being foundations linked to demolished structures, typically brick retaining walls and foundations linked to the Dalton Works printworks. These were also removed to the stockpile on NT03, and again, riddle buckets were used to minimise the transferred of the underlying fines. The printworks was also subject to archaeological investigations prior to demolition: this is discussed (see Section 6 below).

Other buried obstructions that were specifically chased that were below formation included the main redundant drainage lines on NT02 linked to the "small tank" and "five-chambered tank" as described in Section 4.1 above. These ran $\sim 2/3$ of the length of NT02 S to N, and their chasing and removal was a specific client's requirement (see drawings within Appendix D). Redundant drainage lines running S-N through the eastern 'lower' portion of NT04: photographs of this are included within Appendix E. All areas excavated for drainage chasing were backfilled and compacted as per the earthworks specification.



Section 6: Other areas

As described above, archaeological works were undertaken by others on the foundations of the former printworks. Excavation and reprofiling works in the area were postponed until the archaeologists had completed their investigations.

Since their investigations involved the uncovering of the printworks foundations, including the removal of untested backfill materials around these foundations, a large stockpile of material resulted following the completion of their works. Since this material was an agglomeration of various untested materials, this was riddled to remove oversize materials and retested to confirm suitability for reuse (see samples “arch stock 1” as part of report 24-034565).

Other areas that required unexpected testing included an apparent land drain encountered during excavations on NT04 close to the chased drainage running S-N through the eastern ‘lower’ portion of NT04 described above. Water appeared to flow following rainfall, albeit somewhat delayed, suggesting the water took time to percolate.

Samples were collected of this water and these were sent for laboratory analysis. The low ammonia and COD concentrations indicated a non-foul water origin, whilst the low chloride and total hardness also suggested a non-potable origin. Based upon this analysis, and the apparent delayed appearance following rainfall, suggested a surface or rainwater drain run originating from the Dalton Works printworks or the railway viaduct to the south of the site (see sample “NT04 drain” as part of report 24-034565).



Section 7: Site won 6F2

As discussed above, all obstructions and other oversize materials were transferred to a stockpile in the northern portion of NT03 adjacent to Dantzic St. to await crushing: this area was cut to level at the start of works and materials transferred to an upfill area on the southern boundary adjacent to the viaduct (see Section 8 below). Crushing commenced in July 2024 and resulted in the formation of 3219m³ of 6F2 material.

Several chemical and geotechnical tests were undertaken as the materials were produced and placed into stockpile. A single sample was collected from the stockpile (see “6F2 Crush 2” as part of report 24-033073) and this returned a positive result for chrysotile asbestos, albeit at a concentration <0.001%. Samples “6F2 Crush 1 and 3” collected from elsewhere in the pile did not reveal the presence of asbestos fibres.

Further samples were collected from both this area of the stockpile and the rest of the stockpile: samples “6F2 Crush 6 and 7” (see report 24-034565) were collected from the immediate vicinity of “6F2 Crush 2” and these revealed the presence of 0.002% amosite and 0.004% chrysotile respectively. Samples collected at the same time from outside the immediate vicinity of these three samples did not reveal the presence of any asbestos fibres, including within the uncrushed material (see samples “6F2 Crush 4 and 5” and samples of pre-crushed concrete “6F2 pre-crush 1 to 3”, again part of report 24-034565).

This established that a small hotspot of 6F2 with a potential low-level asbestos impact was present, most likely due to limited areas of contamination within the pre-crushed concrete (although analysis of samples of pre-crush did not reveal asbestos). There was the potential for low level asbestos impact from the underlying soils to be accidentally transferred to the stockpile alongside the oversize, although a) the oversize was generally riddled prior to loading and b) significant asbestos was not encountered on the site immediately below any floor slabs, either in the site investigation or remediation phases.

The distinct impacted portion of the stockpile was segregated from the remainder of the stockpile for off-site disposal, whilst further sampling of this portion of the stockpile (see samples “6F2 crush 8 to 11” as part of report 24-038721) confirmed its removal. Additional sampling of the rest of the completed stockpile (see samples “6F2 crush 12 to 17”, also part of report 24-038721) also confirmed the absence of asbestos. The segregated material was disposed of as a part load with the other oversize collected post-demobilisation of the crusher.

All other chemical and geotechnical analyses confirmed the 6F2’s suitability for reuse on this site if the client deemed there was a requirement for it following the completion of PRL’s works. *Note that 100 loads of this material were transferred by the client to the BAM HIF site on the opposite bank of the River Irk for use in upfilling works.* ~200m³ of this 6F2 was also used to form a 100mm base layer before the temporary piling platform, see Section 8 below. The remainder was used by the client.

Note that further excavation and obstruction works were undertaken following the demobilisation of the crusher from site, including along the gas main corridor: these materials are not included in the above-mentioned volumes but are included in export figures described in Table 1 in Section 2. These materials were exported to DHI’s facility in Mies Platten for offsite crushing. A total of 58 loads plus the part load described above were exported post-demobilisation of the crusher. A small quantity of oversized material



encountered during the removal of the gas pipe was also crushed using a crusher bucket: this volume was deemed negligible compared to the

As described previously, all tarmac surfaces at the site were also demolished and stored separately (to avoid accidental contamination of the 6F2 during the crushing). These were also exported as part of this phase (see in Table 1 in Section 2).

(Following the original demolition of the buildings by others, the crushing of oversize materials resulted in approximately 350m³ of 6F2 that was left in a stockpile on the northern portion of NT02. Chemical and geotechnical tested verified this material's suitability for reuse, see samples "BAM 6F2 PSD" as part of report C1087613 / 303457.7.1.1 and "6F2 crush" as part of report 24-031424". The fate of this material is discussed in Section 8.

All sample results and the sample tracker as part of Appendix A.



Section 8: Areas of upfill

The site reprofiling works required the movement of materials into four main areas. The first area was to facilitate the construction of a piling mat and associated access for the piling rig to this mat from the Dalton St entrance. This piling mat is intended to allow the construction of a retaining wall along the southern site boundary with the viaduct. Works commenced on this location in July 2024 (see Section 7 above).

The second area was the extension of the piling platform described above to the west: this extended the platform and its batter over the route of the existing MP gas pipeline, works that could not be undertaken until the pipeline had been diverted, decommissioned and removed.

Note that both the first and second areas consist of both permanent fill works in the lower portions of the fill, overlain by temporary fill works consisting of areas that are scheduled for future excavation and removal from site once the piling works have been completed.

Suitability for use in the permanent areas was assessed using the determinands within the earthworks specification "Enabling Works Performance Specification PLOTS NT02, NT03 & NT04 NORTHERN GATEWAY". Use in the temporary areas was at the discretion of the temporary works design. As per the temporary works design, the pile platform consisted of an SS40 geotextile rolled across the upfilled surface, with this then covered in a mat of ~100mm of site won 6F2. This mat of 6F2 was then overlain by an SS60 triaxial geomembrane, which in turn was overlain by ~220mm of imported MOT Type 1 material, another SS60 triaxial geomembrane, and a final layer of ~220mm of imported MOT Type 1 material. These materials will be removed as part of later works and are discussed further in Section 8.3 below.

The third area was the upfilling of the central portion of NT02 where the redundant foundations and other buried obstructions had been removed from. These works were also commenced in July 2024.

The fourth area was the backfill of the TCE area on the southern third of NT02. This is discussed further in Section 3 above.

In order to fill these areas, a number of materials were utilised. These originated from areas scheduled to be cut:

1. Two areas of Class 1 granular fill excavated from either side of the existing gas main at the northern end of NT03 adjacent to Dantzic St. These areas were the first area to cut to level, since these areas were used as a storage area for oversize material and a receiving area for produced 6F2 (see Section 7 above).
2. Materials obtained from the ramp/embankment on the southern side of NT03, consisting mainly of a Class 2 cohesive fill (but categorised as suitable for reuse in permanent fill works by the earthworks specification).
3. Materials obtained from the foot of the ramp/embankment on the southern side of NT03, consisting of a mix of the underlying Class 1 ash fill as well as the ramp material.
4. A triangular shaped area excavated effectively at the foot of the batter resulting from the extension of the ramp pile mat. This triangular area also sat between the existing MP gas main and the new diversion. Materials in this area consisted predominantly of a Class 1 granular ash fill



5. The route of the existing gas main: this area could not be cut until the new gas main was installed and commissioned, and the existing decommissioned and removed. As per the materials on either side of the gas main (the triangular area described in 4) and the two areas of Class 1 fill described in 1)), these materials were predominantly Class 1 granular material overlying a Class 6A material.
6. Due to the deficit of suitable Class 1 material towards the end of the works, some material was removed from the northern portion of NT02 adjacent to Dantzic St for use in the temporary fill works. This was replaced with a Class 6A material also obtained from the route of the existing gas main.
7. Following the removal of the redundant foundations across the central section of NT02 (i.e. between the TCE area and the Class 1A donor area described in 6) above), due to the proximity of the groundwater and the potential for the inadvertent creation of soft spots where a stanchion base had been removed from a relatively impermeable strata, ~200m³ of the 6F2 remaining on site from the demolition of the original buildings¹⁵ was used as primary backfill before any Class 1 materials were overlain.
8. *Temporary works only:* as described above, the piling mat consisted of ~100mm of site-won 6F2 overlain by ~440mm of imported virgin Type 1 material (interspersed with SS40 and SS60 geomembranes).

¹⁵ The creation of this 6F2 predated PRL's arrival on site



Section 8.1: Geotechnical suitability

A number of samples were collected were collected to assess and confirm the geotechnical suitability of the material for both the underlying permanent and the temporary works. These samples were as follows and exceeded the sampling frequency of one sample per 500m³. These samples were assessed for their PI, PSD, OMC/MDD and MC, as well as uniformity testing. Samples of the “ramp” and “ash fill” were also subjected to a shear box test for temporary works.

Sample	Report number	Rationale	Source of sample and destination of material
Ramp	C1087613 / 299203.7.1.1	Collected from the cohesive Class 2 ramp material to confirm suitability described within earthworks spec	Samples collected from Area 7 northern foot of the “ramp” in NT03. Represents materials transferred to Area 1.
Ash fill	C1087613 / 299203.3.1.1	Class 1 granular material collected from ash fill in northern portion of NT03, various locations	Samples collected from Area 5/”Cut Area 1” in NT03. Represents material transferred to Area 10 in NT02 (the TCE area and areas where obstructions removed, see Section 5).
Ash fill 1	C1087613 / 303457.3	Class 6F1 granular material collected from ash fill in northern portion of NT03, various locations	Samples collected Areas 2, 3, 5 and 6, both during excavation works and via pre-excavation trial pits (Areas 2 and 6). Represents materials transferred to Area 1 and Area 10.
Ash fill 2			
Ash fill 3			
Ash fill 4			
Ash fill 5			
Ash fill 6 230824	24-038507-1	Class 1 granular material collected from ash fill in northern portion of NT03, various locations	Samples collected Areas 2, 3, 5, 6 and 7, again both during excavation works. Represents materials transferred to Area 1 and Area 10.
Ash fill 7 230824			
Ash fill 8 230824			
Ash fill 9 230824			
Ash fill 10 230824			
Silty Clay 1 aka loc 1	24-039768-0	Collected from the Class 6A from underneath the MP gas main	Samples collected from N and S ends of Area 4. Represents material transferred to Area 9’s permanent works.
Silty Clay 2 aka loc 2			
NT02 for gas main/ Sample 1	24-050719.1	Class 1 granular fill collected from material borrowed from the northern portion of NT02 for use in the piling platform	Samples collected from Area 11. Represents material transferred to Area 9’s permanent works.
Client’s 6F2	C1087613 / 303457.7.1.2	Class 6F2 present on site upon arrival	Samples collected from existing stockpile on NT02. Represents material transferred to base of Area 10.

Table 3, to be viewed alongside Drawings Dj, and Dk within Appendix D.

The results discussed in Table 3 for these samples are included within Appendix B. All results indicate that the Class 1 granular, Class 2 cohesive and Class 6A fill materials sampled would be suitable for use in the permanent areas, a suitable compaction regime was employed (see below). All Class 1 materials also returned uniformity coefficients >4 to 6 (gravels → sands range), indicating the materials were well graded and likely to achieve optimum compaction.

However, the temporary works design stipulated that only Class 1 materials would be suitable for use in the more structurally sensitive temporary areas. By the time the gas pipe redirection works had been completed (early October 2024), and therefore the works in the “second” upfill area described above could commence, there was insufficient free Class 1 material remaining on site for reuse. This necessitated the excavation of Class 1 material from the northern portion of NT02 next to Dantzic St for use in the piling platform, with its replacement with Class 2 cohesive gained from reprofiling works along the now-decommissioned MP gas main route.

As previously stated, for materials used in the temporary works, shear box testing was undertaken on the “ramp” and “ash fill” samples to ensure the minimum angle of internal friction for any Class 1A material did not exceed 39° (see Pile mate temporary works design “VNIF-BNL-ZZ-YYY-CT-WS-0004”). The results indicated that the angles of shearing resistance for the “ramp” and “ash fill” samples were 52° and 50° respectively (see reports “DNR-139545 LSB ramp” and “DNR-139546 LSB ash fill” with Appendix B).



Section 8.2: chemical suitability

As per the geotechnical analyses, samples were also collected and analysed for those chemical reuse parameters described in "Plots NT02, NT03 & NT04 Dantzic Street, Phase 3a Detailed Remediation Strategy Report". These samples included sample "ramp" and "ash fill" of report 24-024257; samples "ash fill 1 to 5" of report 24-031413; samples "ash fill 5¹⁶ to 8" of report 24-034565; and samples "silty clay 1 aka "loc 1"" and silty clay 2 aka "loc 2" of report 24-039871. These analyses were compared to the parameters described in Table 4 below and this confirmed that all materials were suitable for reuse.

	1% SOM (mg/kg)	2.5% SOM (mg/kg)	6% SOM (mg/kg)
Naphthalene	1800	3900	7800
Trichloroethene (TCE)	0.224	0.224	0.224
Carbon Tetrachloride (CCl ₃)	0.116	0.116	0.116
Benzene	27	50	98
Toluene	56000	107000	184000
Ethylbenzene	6000	13000	27000
<i>m</i> -Xylene	6200	14100	31200
<i>o</i> -Xylene	6600	15000	33000
<i>p</i> -Xylene	5900	13600	30000
Total xylenes	5900	13600	30000
Aliphatic hydrocarbons (C ₅ -C ₆)	3200	5900	12100
Aliphatic hydrocarbons (>C ₆ -C ₈)	7800	17400	39600
Aliphatic hydrocarbons (>C ₈ -C ₁₀)	2000	4800	11300
Aliphatic hydrocarbons (>C ₁₀ -C ₁₂)	9700	22900	47300
Aliphatic hydrocarbons (>C ₁₂ -C ₁₆)	59000	82000	90000
Aliphatic hydrocarbons (>C ₁₆ -C ₃₅)	-	-	-
Aliphatic hydrocarbons (>C ₃₅ -C ₄₄)	-	-	-
Aromatic hydrocarbons (>C ₈ -C ₁₀)	3500	8100	17000
Aromatic hydrocarbons (>C ₁₀ -C ₁₂)	16000	28000	34000
Aromatic hydrocarbons (>C ₁₂ -C ₁₆)	36000	37000	34000

Table 4¹⁷

¹⁶ Duplicate samples named "Ash Fill 5"...represents different materials collected from different locations. No duplication of the geotechnical samples was made

¹⁷ as taken from Table 10 in Section 8.4.1 of "Plots NT02, NT03 & NT04 Dantzic Street, Phase 3a Detailed Remediation Strategy Report". Criteria based upon vapour inhalation pathways.



As described above, significant portions of the upfilled materials reside in those temporary areas. These materials will require testing and removal from site once the piling works have been completed. Approximately 11,000m³ of material will be removed from site as part of this final phase, excluding pile arisings.

An assessment of samples collected during the site investigation works from the main fill 'source' areas (see Areas 2, 3, 4, 5, 6 and 7) suggests that the majority of the surface materials in these areas would be classified as hazardous for waste disposal purposes (although note that these materials remain suitable for use on site).

Details of the 'cut and fill' balance, the *approximate* volumes of materials collected from each 'source' area, and the sources vs destinations of the fill materials are included within Appendix D.



Section 8.3: Backfill process

As described above, several materials were used for backfilling across the site, namely the Class 1A materials “ash fill”, “ash fill 6 to 10 230824”, and “NT02 for gas main/sample 1”; the Class 2C materials “ramp”; and the Class 6 materials “ash fill 1 to 5”, “silty clay 1 and 2” and “Client’s 6F2”.

All materials, with the exception of the “silty clay 1 and 2” and “Client’s 6F2”, were excavated, stockpiled and then passed through a 60mm screen to remove any oversized materials. As per p26 of the earthworks specification “Enabling Works Performance Specification PLOTS NT02, NT03 & NT04 NORTHERN GATEWAY”, method compaction of general fill materials was carried out in accordance with Table 6/1 of Specification for Highway Works, Series 600 Earthworks.

Class 1A and 2C materials were method compacted as per Method 2, Table 6/4 by placing the material in $\leq 275\text{mm}$ layers and compacted using a 13t vibrator roller with four passes. Class 6 materials were placed $\leq 250\text{mm}$ layers and compacted using a 13t vibrator roller with six passes, again as per Method 6, Table 6/4. Materials were placed and compacted in the appropriate thickness layers until the desired elevation as per the site model was achieved.

As described above, the temporary pile mat consisted of 100mm of 6F2 overlain by 2x 220mm layers of imported virgin MOT Type 1 (interspersed with SS40 and SS60 geomembranes respectively). These materials were compacted using a 13t vibrator roller with six passes.

Copies of the backfill compaction certificates are included within Appendix B.



Section 8.4: CBR results

To verify that the materials had been compacted, a number of CBR and deformation plate tests were undertaken in three rounds. The tests were undertaken at both the top of the permanent works and the top of the temporary works. Based upon those parameters described in Section 4.1 of the earthworks spec "Enabling Works Performance Specification PLOTS NT02, NT03 & NT04 NORTHERN GATEWAY" (RDB-ROC-XX-XX-SP-C-0600), all *permanent* subgrades must achieve $\geq 3\%$.

Based upon the piling mat's temporary works design, the final surface of those temporary works areas were subject to different performance criteria, namely $\leq 15\text{mm}$ deflection on a 300mm plate at 1200kPa.

The CBRs and plate tests can be summarised as follows:

- 14x CBRs undertaken 12th August (described as CBR 1 to 14, see reports C1087613 / 306430.1.1 to C1087613 / 306430.1.14). These were undertaken across those portions of the site where works had been completed, with the majority undertaken across NT04 but with some undertaken on completed portions of NT02 and NT03. All CBR tests achieved the $\geq 3\%$, with the lowest achieving 4%.
 - CBR tests 12 to 14 were undertaken *at final level of the permanent works* and *prior* to the placement and compaction of those materials forming part of the temporary works (~2m below temporary works' 'final' level).
 - 6x SRD tests were also undertaken as part of these *permanent* works to confirm the effectiveness of method compaction (see report "DNR/141063"). These tests were undertaken in the immediate vicinity of CBR tests and confirmed compactions $\geq 95\%$ were achieved on upfilled materials across NT02 (see TCE area and those areas where significant obstructions had been removed, SRD 1 and SRDs 2&3 respectively). Confirmation SRDs were also undertaken on the *top* of the permanent upfill works along the southern/viaduct boundary of NT03 and NT04; note temporary materials were then placed on top of these materials.
- In total, 14x CBRs were undertaken 5th September (described as "NTCCBR 1 to 14", see report SR-2273-C0380/1). These tests were undertaken at finished level on the plateaux across NT04. 2x CBR tests achieved a marginal 2.9% (NTCCBR 1 and 2¹⁸); the materials across the entire plateau were re-compacted, and the surface retested in the vicinity of the original tests. These repeat results achieved $\geq 3\%$. The remaining ten tests also exceeded the 3% CBR requirement.
- A final five tests were undertaken at the 'final' surface of the temporary pile mat i.e. on top of the second layer of MOT Type 1 (see report SR-2443-C0380-4). These were located to best reflect the position of the piling rig's load and did not reveal a deformation $> 15\text{mm}$.

All CBR and deformation results are included with Appendix C. The locations are described in drawings within Appendix D.

¹⁸ referred to as Test 1 and 2 on report SR-2273-C0380/1



Section 9: Asbestos air monitoring

A total of three asbestos air monitoring visits were undertaken during the remediation works by a third party, namely on the 28th June, 10th July and 22nd July. Pumps were placed at various points around the perimeter of the site, including in close proximity to excavation areas and loading areas. No significant fibres were observed.

The results of the analyses are included within Appendix G.

Section 10: Perimeter dust monitoring

'Frisbee'-type dust deposition gauges were placed at four points around the perimeter of the site. MP1 was in the southwestern corner of the site in the TCE area of NT02; MP2 was in the northwestern corner of NT02 adjacent to Dantzic St; MP3 was situated in the site compound adjacent to Dantzic St, effectively the northeastern corner of NT03; and MP4 was located halfway along NT04's boundary with Dalton St.

Significant dust in excess of the guidance criteria of 200mg/m²/day deposition rate was not observed. The results of the analyses are included within Appendix H.

Section 11: Vibration data

A Vibrock vibration meter was placed at various positions around the site, with the position determined by the proximity of a sensitive structure and the works being undertaken in close proximity. These structures included the railway viaduct along the southern boundary of the site; the MP gas main; the garage retaining wall on the southern boundary of NT02/the TCE area (see Section 3 above).

Results were compared to guidance criteria provided in BS 5228-2:2009 and NGN's "Safe working in the vicinity of Northern Gas Networks high pressure gas pipelines and associated installations".

Significant vibration likely to cause damage to any receptor was not observed. Exported data from the vibration meter, including the location of the meter, is included within Appendix I.



Appendices

- Appendix A: Soil analyses
 - Aa Sample tracker
 - Ab Exported soil results, including samples representing materials classified as hazardous and non-hazardous. Includes XRF analyses.
 - Ac Unexpected hotspots and tank validation results
 - Ad Chemical testing of 6F2
- Appendix B:
 - Geotechnical laboratory results representing materials reused on site
 - Backfill certificates
- Appendix C: Field CBR results:
 - C1087613 / 306430.1.1.1 to 14 (12th August)
 - SR-2273-C0380/1 (5th September)
 - SR-2443-C0380-4 (4th November, *temporary works areas only*)
 - SRD results (12th August)
- Appendix D: Drawings
 - Da: site surface prior to start of works
 - Db: completed site surface (includes temporary works)
 - Dc: location of materials with hazardous classification
 - Dd: additional expected & unexpected works, NT02 & NT03
additional expected & unexpected works, NT03 & NT04
 - De: CBR, SRD and deformation plate locations
 - Df: Location of buried obstructions, N portion NT02
Location of buried obstructions, mid portion NT02
Location of buried obstructions, S portion of NT02
Location of buried obstructions, NT03
Location of buried obstructions, NT04
 - Dh: export sample locations
 - Di: cut & fill volumes
 - Dj: Earthworks: sources and destinations of soil materials
 - Dk: Earthworks: sources and destinations of soil materials, permanent works vs temporary works
- Appendix E: Photographs
- Appendix F: Environmental permits for receiving waste disposal facilities
- Appendix G Asbestos air monitoring



- Appendix H: Dust monitoring
- Appendix I: Vibration data
- *Appendix J: works specific to TCE hotspot*
 - *First round of excavation validation analysis*
 - 24-025376
 - 24-029493
 - *Second round of excavation validation analysis*
 - 24-030450
 - *Additional validation trial pits outside of hotspot*
 - 24-031424
 - 24-032291
 - *Stockpile analysis*
 - 24-025303
 - 24-025309
 - *Backfill analysis*
 - 24-024257
 - 24-031413
 - PSD determination C1087613 / 299203.3.1.1
 - *Tenax analysis*
 - Background: 11105-2
 - First round: 11481-1
 - Second round: 11732-1
 - *Stockpile volumes and drawings*
 - Stockpile Volumes - 21.06.2024
 - *First excavation extents*
 - TCE 110624- Layout1
 - TCE val samples 110624-Layout1
 - *Second excavation extents*
 - TCE 110724-Layout1
 - TCE 110724 val sample-Layout1
 - *Photos*



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix A

Laboratory analyses



101221 Victoria North

	air monitoring
	export sample
	validation
	geotech samples
	reuse

Chemical - Sample Log

Date Sampled	Sample Type	Location	ID	Depth (BGL)	Rational	Results Received	Report ref	Comments
22/03/2024	TW01				tank contents		24-03082	contents of 5C tank samples by others
22/03/2024	TW02				tank contents		24-03082	
22/03/2024	TW03				tank contents		24-03082	
22/03/2024	TW04				tank contents		24-03082	
22/03/2024	WS01						24-03082	
25/03/2024	XRF				haz export		PRL	XRF analysis
26/03/2024			LFT01 contents		tank contents	09/04/2024	24-011519	contents of small tank adjacent to MP main in S end of NT02/NT03
02/04/2024	XRF		Victoria North		haz export: Japanese Knotweed stockpile samples	03/04/2024	Victoria North	70x XRF samples of samples of the Japanese knotweed stockpiles. Materials stockpiled by others following surface scrape of NT04, materials sampled at/near surface of stockpiles
09/05/2024	tenax				background air	30/05/2024	11105-2	top 20 peaks...prior to start of works
15/05/2024	soil		int sludge	n/a	tank contents	28/05/2024	24-020519	interceptor next to MP main in NT02/NT03 boundary
15/05/2024	water		tank water	n/a	tank water	28/05/2024	24-020519	interceptor next to MP main in NT02/NT03 boundary
20/05/2024	soil		asb stock 1	n/a	hazardous export	31/05/2024	24-021274	material sent to Rowley Regis...HM required for ERQ license
20/05/2024	soil		small piles 1	n/a	export	31/05/2024	24-021274	first export of materials...not on SI, transferred to this location by BAM
20/05/2024	soil		small piles 2	n/a	export	31/05/2024	24-021274	first export of materials...not on SI, transferred to this location by BAM
23/05/2024	soil		export A		export	05/06/2024	24-023325	first export samples, sampled at point of excavation
24/05/2024	soil		export B		export	11/06/2024	24-023323	
28/05/2024	soil		export C		poss haz export	11/06/2024	24-023320	
29/05/2024	soil		export D		export	11/06/2024	24-023322	
03/06/2024	soil		export030624		haz export	11/06/2024	24-023319	
07/06/2024	soil		export070624		export	17/06/2024	24-024257	
07/06/2024	soil	reuse	ramp		reuse	17/06/2024	24-024257	reuse as fill...collected from the Class 2C from the foot of the ramp on the S side of NT03
07/06/2024	soil	reuse	ash fill		reuse	17/06/2024	24-024257	reuse as fill...collected from the cut at the northern end of NT03 next to the Dantzig St entrance
09/06/2024	geotech		ramp		geotech	09/07/2024	C1087613 / 299203.7.1.1	collected from ramp up to railway viaduct on S portion of NT03
09/06/2024	geotech		ash fill		geotech	09/07/2024	C1087613 / 299203.3.1.1)	collected from ash fill at N portion of NT03 during excavation
12/06/2024	Soil	NT02 SP	ES1	N/A	export	21/06/2024	24-025303	TCE soil stockpiled after excavation
12/06/2024	Soil	NT02 SP	ES2	N/A	export	21/06/2024	24-025303	
12/06/2024	Soil	NT02 SP	ES3	N/A	export	21/06/2024	24-025303	
12/06/2024	Soil	NT02 SP	ES4	N/A	export	21/06/2024	24-025303	
12/06/2024	Soil	NT02 SP	ES5	N/A	export	21/06/2024	24-025303	
12/06/2024	Soil	NT02 SP	ES6	N/A	export	21/06/2024	24-025303	
12/06/2024	Soil	NT02 SP	ES7	N/A	export	21/06/2024	24-025303	TCE soil stockpiled after excavation...this pile initially considered for reuse, results indicated unfit for reuse
13/06/2024	Soil	NT02 SP	ES8	N/A	export	20/06/2024	24-025309	
13/06/2024	Soil	EX SP	Export110624	N/A	export	20/06/2024	24-025308	
13/06/2024	Soil	EX SP	Export130624	N/A	haz export	21/06/2024	24-025307	haz materials...sampled to determine categorisation
14/06/2024	Soil	NT02	NT02/A	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/B	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/C	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area



101221 Victoria North

	air monitoring
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Chemical - Sample Log

Date Sampled	Sample Type	Location	ID	Depth (BGL)	Rational	Results Received	Report ref	Comments
14/06/2024	Soil	NT02	NT02/D	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/E	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/F	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/G	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/H	edge	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/I	base	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/J	base	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/K	base	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/L	base	validation	21/06/2024	24-025376	first round of val samples from TCE area
14/06/2024	Soil	NT02	NT02/M	base	validation	21/06/2024	24-025376	first round of val samples from TCE area
17/06/2024	Soil	EX SP	EXPORT170624	N/A	haz export	27/06/2024	24-026245	
17/06/2024	Soil	EX SP	EXPORT170624 B	N/A	export	25/06/2024	24-026201	
18/06/2024	Soil	EX SP	EXPORT180624	N/A	export	25/06/2024	24-026198	
19/06/2024	Soil	EX SP	EXPORT190624	N/A	export	25/06/2024	24-026199	
19/06/2024	tenax	TCE area	792051		air mon	01/07/2024	11481-1	ran during 1st TCE remediation...pump placed in centre of TCE area on top of RBH203
20/06/2024	Soil	EX SP	EXPORT200624	N/A	export	28/06/2024	24-026672	
21/06/2024	Soil	EX SP	EXPORT210624	N/A	export	27/06/2024	24-026673	
21/06/2024	Soil	5C Tank	5C Tank N	edge	val	28/06/2024	24-026674	from base & sides of five chamber tank
21/06/2024	Soil	5C Tank	5C Tank E	edge	val	28/06/2024	24-026674	from base & sides of five chamber tank
21/06/2024	Soil	5C Tank	5C Tank S	edge	val	28/06/2024	24-026674	from base & sides of five chamber tank
21/06/2024	Soil	5C Tank	5C Tank W	edge	val	28/06/2024	24-026674	from base & sides of five chamber tank
21/06/2024	Soil	5C Tank	5C Tank B	base	val	28/06/2024	24-026674	from base & sides of five chamber tank
27/06/2024	Soil	EX SP	EXPORT270624	N/A	export	09/07/2024	24-028511	
28/07/2024	Soil	EX SP	EXPORT280624	N/A	export	08/07/2024	24-028513	
01/07/2024	Soil	EX SP	EXPORT010724	N/A	export	15/07/2024	24-029487	
03/07/2024	Soil	EX SP	EXPORT030724	N/A	export	12/07/2024	24-029488	
04/07/2024	Soil	EX SP	EXPORT040724	N/A	export	12/07/2024	24-029489	
04/07/2024	Soil	val	small tank N		val	12/07/2024	24-029493	from base & sides of small tank next to MP gas pipe
04/07/2024	Soil	val	small tank E		val	12/07/2024	24-029493	from base & sides of small tank next to MP gas pipe
04/07/2024	Soil	val	small tank S		val	12/07/2024	24-029493	from base & sides of small tank next to MP gas pipe
04/07/2024	Soil	val	small tank W		val	12/07/2024	24-029493	from base & sides of small tank next to MP gas pipe
04/07/2024	Soil	val	small tank B		val	12/07/2024	24-029493	from base & sides of small tank next to MP gas pipe
04/07/2024	Soil	val	NT02 TCE 1		val	12/07/2024	24-029493	to west of TCE area where apparent "gap" in sample regime is
04/07/2024	Soil	val	NT02 TCE 2		val	12/07/2024	24-029493	to west of TCE area where apparent "gap" in sample regime is
05/07/2024	Soil	EX SP	EXPORT050724	N/A	export	12/07/2024	24-029490	
08/07/2024	Soil	EX SP	EXPORT080724	N/A	export	18/07/2024	24-030451	
09/07/2024	Soil	EX SP	EXPORT090724	N/A	export	18/07/2024	24-030449	
11/07/2024	Soil	EX SP	EXPORT110724	N/A	export	19/07/2024	24-030453	
11/07/2024	Soil	val	NT02 TCE 3		val	18/07/2024	24-030450	TCE val sampling for 2nd round of excavation to E end of hotspot
11/07/2024	Soil	val	NT02 TCE 4		val	18/07/2024	24-030450	TCE val sampling for 2nd round of excavation to E end of hotspot
11/07/2024	Soil	val	NT02 TCE 5		val	18/07/2024	24-030450	TCE val sampling for 2nd round of excavation to E end of hotspot
11/07/2024	Soil	val	NT02 TCE 6		val	18/07/2024	24-030450	TCE val sampling for 2nd round of excavation to E end of hotspot
11/07/2024	Soil	val	NT02 TCE 7		val	18/07/2024	24-030450	TCE val sampling for 2nd round of excavation to E end of hotspot
11/07/2024	tenax	TCE area	749745		air mon	23/07/2024	11732-1	ran during 2nd TCE dig



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	air monitoring
	export sample
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	geotech samples
	reuse

Chemical - Sample Log

Date Sampled	Sample Type	Location	ID	Depth (BGL)	Rational	Results Received	Report ref	Comments
15/07/2024	Soil	val	NT02 tank N		val	30/07/2024	24-031413	tank found under slab on W boundary of NT02
15/07/2024	Soil	val	NT02 tank E		val	30/07/2024	24-031413	tank found under slab on W boundary of NT02
15/07/2024	Soil	val	NT02 tank S		val	30/07/2024	24-031413	tank found under slab on W boundary of NT02
15/07/2024	Soil	val	NT02 tank Base		val	30/07/2024	24-031413	tank found under slab on W boundary of NT02 [note no "NT02 W" sample as tank on site boundary]
16/07/2024	Soil	reuse	ash fill 1		reuse	30/07/2024	24-031413	ash fill for reuse collected during excavation works
16/07/2024	Soil	reuse	ash fill 2		reuse	30/07/2024	24-031413	
16/07/2024	Soil	reuse	ash fill 3		reuse	30/07/2024	24-031413	
16/07/2024	Soil	reuse	ash fill 4		reuse	30/07/2024	24-031413	
16/07/2024	Soil	reuse	ash fill 5		reuse	30/07/2024	24-031413	
16/07/2024	Soil	reuse	export160724haz		export	24/07/2024	24-031424	ramp HAZ export
17/07/2024	Soil	reuse	export170724haz		export	24/07/2024	24-031424	ramp HAZ export
17/07/2024	6F2	reuse	6F2 crush		reuse	24/07/2024	24-031424	6F2 stockpile present on site upon arrival: results from demolition of old factory buildings
17/07/2024	soil	val	TCE TP 1		val	24/07/2024	24-031424	TP near the TCE area...outside of excavation footprint
19/07/2024	soil	export	SP1		export	30/07/2024	24-032291	samples of the 'ramp material'...reflects material both exported and reused in the upfill...prob HAZ
19/07/2024	soil	export	SP2		export	30/07/2024	24-032291	
19/07/2024	soil	export	SP3		export	30/07/2024	24-032291	
19/07/2024	soil	export	SP4		export	30/07/2024	24-032291	
19/07/2024	soil	export	SP5		export	30/07/2024	24-032291	
19/07/2024	soil	export	SP6		export	30/07/2024	24-032291	
19/07/2024	soil	val	TCE TP 2		val	30/07/2024	24-032291	TP near the TCE area...outside of excavation footprint
19/07/2024	soil	val	TCE TP 3		val	30/07/2024	24-032291	TP near the TCE area...outside of excavation footprint
19/07/2024	geotech		ash fill 1		geotech		C1087613 / 303457.3	samples of ash fill amterial collected from pre-excavation TPs across NT02 and NT03
19/07/2024	geotech		ash fill 2		geotech			
19/07/2024	geotech		ash fill 3		geotech			
19/07/2024	geotech		ash fill 4		geotech			
19/07/2024	geotech		ash fill 5		geotech			
19/07/2024	geotech		6F2 PSD		geotech		C1087613 / 303457.7.1.1	first sample of site-won 6F2
19/07/2024	geotech		BAM 6F2 PSD		geotech		C1087613 / 303457.7.1.2	collected from 6F2 already stockpiled on site on PRL arrival...material believed to result from demolition of previous buildings by others
22/07/2024	soil	export	export220724		export	01/08/2024	24-033073	
24/07/2024	6F2	reuse	6F2 crush 1		reuse	01/08/2024	24-033073	site won 6F2
24/07/2024	6F2	reuse	6F2 crush 2		reuse	01/08/2024	24-033073	
24/07/2024	6F2	reuse	6F2 crush 3		reuse	01/08/2024	24-033073	
08/07/2024	dust	MP1	MP1		air mon	01/08/2024	11865-1	perimeter dust deposition gauge
08/07/2024	dust	MP2	MP2		air mon	01/08/2024	11865-1	
08/07/2024	dust	MP3	MP3		air mon	01/08/2024	11865-1	
08/07/2024	dust	MP4	MP4		air mon	01/08/2024	11865-1	
26/07/2024	6F2	reuse	6F2 crush 4		reuse		24-034565	
26/07/2024	6F2	reuse	6F2 crush 5		reuse		24-034565	
26/07/2024	6F2	reuse	6F2 crush 6		reuse		24-034565	
26/07/2024	6F2	reuse	6F2 crush 7		reuse		24-034565	
26/07/2024	6F2 pre-crush	reuse	6F2 pre-crush 1		reuse		24-034565	concrete cobbles pre-crush
26/07/2024	6F2 pre-crush	reuse	6F2 pre-crush 2		reuse		24-034565	



101221 Victoria North

	air monitoring
	export sample
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Chemical - Sample Log

Date Sampled	Sample Type	Location	ID	Depth (BGL)	Rational	Results Received	Report ref	Comments
26/07/2024	6F2 pre-crush	reuse	6F2 pre-crush 3		reuse		24-034565	
01/08/2024	Soil	reuse	ash fill 5*		reuse		24-034565	
01/08/2024	Soil	reuse	ash fill 6		reuse		24-034565	ash fill for reuse..."as fill 5" name accidentally reused, this represents a different sample
02/08/2024	Soil	reuse	ash fill 7		reuse		24-034565	
02/08/2024	Soil	reuse	ash fill 8		reuse		24-034565	
02/08/2024	Soil	poss-reuse	arch stock 1		poss reuse		24-034565	
02/08/2024	water	drain					24-034565	material excavated & stockpiled by archaeology geezers on the top plateau of NT04
								water from drain in NT04...potable origin or rainwater?
23/08/2024	6F2	reuse	6F2 crush 8		reuse		24-038721	asbestos only
23/08/2024	6F2	reuse	6F2 crush 9		reuse			
23/08/2024	6F2	reuse	6F2 crush 10		reuse			
23/08/2024	6F2	reuse	6F2 crush 11		reuse			full chem suite
23/08/2024	6F2	reuse	6F2 crush 12		reuse			
23/08/2024	6F2	reuse	6F2 crush 13		reuse			
23/08/2024	6F2	reuse	6F2 crush 14		reuse			
23/08/2024	6F2	reuse	6F2 crush 15		reuse			asbestos only
23/08/2024	6F2	reuse	6F2 crush 16		reuse			
23/08/2024	6F2	reuse	6F2 crush 17		reuse			
23/08/2024	Soil	reuse	ash fill 9		reuse			
23/08/2024	Soil	reuse	ash fill 10		reuse			ash fill for reuse
23/08/2024	Soil	reuse	ash fill 11		reuse			
23/08/2024	geotech		ash fill 6 230824		geotech		24-038507-1	sent to i2 not CTS
23/08/2024	geotech		ash fill 7 230824		geotech		24-038507-1	
23/08/2024	geotech		ash fill 8 230824		geotech		24-038507-1	
23/08/2024	geotech		ash fill 9 230824		geotech		24-038507-1	
23/08/2024	geotech		ash fill 10 230824		geotech		24-038507-1	
27/08/2024	Soil	export	export270824		export		24-039166	
28/08/2024	Soil	export	under plinth		haz export		24-039166	the stuff from under the plinth near the garage/MP main entry point
28/08/2024	6F2	reuse	6F2 280524 A		geotech		24-039018-1	PSD tests
28/08/2024	6F2	reuse	6F2 280524 B		geotech		24-039018-1	
28/08/2024	6F2	reuse	6F2 280524 C		geotech		24-039018-1	
28/08/2024	6F2	reuse	6F2 280524 D		geotech		24-039018-1	
28/08/2024	Soil	reuse	6F2 280524 E		geotech		24-039018-1	
29/08/2024	asbestos		ACM1		export/disposal		24-039165	ACM ID from material found in plinth...collected to confirm NNLW remedial works at facility
29/08/2024	Soil	export	export290824		export		24-039871	
30/08/2024	Soil	export	export300824		export		24-039871	
30/08/2024	geotech		silty clay 1		geotech		24-039768-0	collected from under the gas main route...duplicates for geotech and chem analyses
30/08/2024	geotech		silty clay 2		geotech			
30/08/2024	Soil	reuse	silty clay 1 aka "loc 1"		reuse		24-039871	
30/08/2024	Soil	reuse	silty clay 2 aka "loc 2"		reuse		24-039871	
02/09/2024	Soil	export	export020924		export		24-040998	
03/09/2024	Soil	export	export030924		export			
04/09/2024	Soil	export	export040924		export			
30/10/2024	geotech	reuse	NT02 for gas main/sample 1		geotech	06/11/2024	24-050719.1	PSD collected from N end of NT02...material utilised as granular in NT03 piling platform



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix Ab

Exported material laboratory analyses, including XRF



Provectus Group
200 Brook Drive
Green Park
Reading
RG2 6UB

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

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e: reception@i2analytical.com

Analytical Report Number : 24-039871

Project / Site name: Victoria North

Samples received on: 03/09/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 03/09/2024

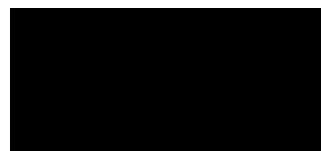
Your order number: 11181

Analysis completed by: 10/09/2024

Report Issue Number: 1

Report issued on: 11/09/2024

Samples Analysed: 4 soil samples



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-039871
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				304934	304935	304936	304937
Sample Reference				export 290824	export 300824	loc 1	loc 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/08/2024	30/08/2024	30/08/2024	30/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	6.7	6.5	12	13
Total mass of sample received	kg	0.1	NONE	0.6	0.5	0.6	0.5

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	1.3	1.1	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	8.7	5.6	4.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.6	0.9	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	14	24	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	32	17	9.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	29	52	18	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	30	18	16	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.1	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	43	68	60	29



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Environmental Science

Analytical Report Number: 24-039871

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				304934	304935	304936	304937
Sample Reference				export 290824	export 300824	loc 1	loc 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/08/2024	30/08/2024	30/08/2024	30/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Petroleum Hydrocarbons

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

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

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	19	24	-	-
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VOCs

Chloromethane	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	120	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-039871

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				304934	304935	304936	304937
Sample Reference				export 290824	export 300824	loc 1	loc 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/08/2024	30/08/2024	30/08/2024	30/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Chlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	-	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0

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

Analytical Report Number : 24-039871

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
304934	export 290824	None Supplied	None Supplied	Brown clay and sand with gravel
304935	export 300824	None Supplied	None Supplied	Brown clay and sand with gravel
304936	loc 1	None Supplied	None Supplied	Brown clay and sand with gravel
304937	loc 2	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-039871

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS

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

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

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

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

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

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

The result for sum should be interpreted with caution



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Analytical Report Number : 24-039166

Project / Site name:	Victoria North	Samples received on:	29/08/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	29/08/2024
Your order number:	11181	Analysis completed by:	06/09/2024
Report Issue Number:	1	Report issued on:	06/09/2024
Samples Analysed:	2 soil samples		

Signed:

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

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

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

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

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

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

Analytical Report Number: 24-039166

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				301149	301150
Sample Reference				under plinth	export 270824
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	27.8	< 0.1
Moisture Content	%	0.01	NONE	15	19
Total mass of sample received	kg	0.1	NONE	0.8	0.8

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	-	14
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.8	-
Acenaphthylene	mg/kg	0.05	MCERTS	1.2	-
Acenaphthene	mg/kg	0.05	MCERTS	3.4	-
Fluorene	mg/kg	0.05	MCERTS	2.4	-
Phenanthrene	mg/kg	0.05	MCERTS	28	-
Anthracene	mg/kg	0.05	MCERTS	6.5	-
Fluoranthene	mg/kg	0.05	MCERTS	41	-
Pyrene	mg/kg	0.05	MCERTS	40	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	19	-
Chrysene	mg/kg	0.05	MCERTS	17	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	19	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	8.5	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	20	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	8.7	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	10	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	230	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	62
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	5.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	1.6
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	40
Copper (aqua regia extractable)	mg/kg	1	MCERTS	96	430
Lead (aqua regia extractable)	mg/kg	1	MCERTS	440	340
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	52
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	450	400

Analytical Report Number: 24-039166

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				301149	301150
Sample Reference				under plinth	export 270824
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	4.5	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	16	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	51	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	71	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	14	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	100	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	160	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	280	-

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	-	490
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VOCs

Chloromethane	µg/kg	5	MCERTS	< 5.0	-
Chloroethane	µg/kg	5	MCERTS	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	-
Carbontetrachloride	µg/kg	5	NONE	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	45	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	-

Analytical Report Number: 24-039166

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				301149	301150
Sample Reference				under plinth	export 270824
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	-
Styrene	µg/kg	5	ISO 17025	< 5.0	-
Bromoform	µg/kg	5	NONE	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	-
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-
Bromobenzene	µg/kg	5	NONE	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
Butylbenzene	µg/kg	5	NONE	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-

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

Analytical Report Number : 24-039166

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
301149	under plinth	None Supplied	None Supplied	Brown loam and clay with vegetation and stones
301150	export 270824	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-039166

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS

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

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

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

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

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-031424

Project / Site name: Victoria North

Samples received on: 18/07/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 18/07/2024

Your order number: 11181

Analysis completed by: 24/07/2024

Report Issue Number: 1

Report issued on: 24/07/2024

Samples Analysed: 4 soil samples

Signed:



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

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

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

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

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

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



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	15	9.3	15
Total mass of sample received	kg	0.1	NONE	1	1	0.8	0.9

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	10	13	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	0.73	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.09	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	1.5	-
Fluorene	mg/kg	0.05	MCERTS	-	-	1.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	7.8	-
Anthracene	mg/kg	0.05	MCERTS	-	-	2.2	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	10	-
Pyrene	mg/kg	0.05	MCERTS	-	-	9.6	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	3.8	-
Chrysene	mg/kg	0.05	MCERTS	-	-	3.9	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	4.4	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	1.8	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	3.9	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	1.9	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.39	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	2.1	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	55.6	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	19	10	-
Boron (water soluble)	mg/kg	0.2	MCERTS	22	7	0.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	6.8	11	0.5	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	130	130	19	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1900	3800	44	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	690	770	76	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.3	3.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	140	170	15	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	4100	4300	140	-



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	MCERTS	-	-	< 0.020	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	MCERTS	-	-	< 0.020	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	MCERTS	-	-	< 0.050	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	-	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	-	4.9	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	27	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	200	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	-	230	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	MCERTS	-	-	< 0.050	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	-	2	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	-	14	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	53	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	170	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	-	240	-

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	2200	1100	-	-
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VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0 ^{##}
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	170
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	< 5.0



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0

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



Analytical Report Number : 24-031424
Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
260854	xport 160724 HA	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260855	xport 170724 HA	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260856	6F2 crush	None Supplied	None Supplied	Brown sand with gravel and brick
260857	TLE TP1	None Supplied	None Supplied	Brown clay

Analytical Report Number : 24-031424
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics



Analytical Report Number : 24-031424
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - underscore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Analytical Report Number : 24-029487

Project / Site name:	Victoria North	Samples received on:	08.07.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	08.07.2024
Your order number:	11181	Analysis completed by:	15.07.2024
Report Issue Number:	1	Report issued on:	15.07.2024
Samples Analysed:	1 soil sample		

Signed:



Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-029487

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				250668
Sample Reference				Export 010724
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				01/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	14
Total mass of sample received	kg	0.1	NONE	1.3

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	1.8
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	35

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-029487

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
250668	Export 010724	None Supplied	None Supplied	Brown clay with gravel

Analytical Report Number : 24-029487

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution



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Analytical Report Number : 24-040998

Project / Site name: Victoria North

Samples received on: 09/09/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 09/09/2024

Your order number: 11181

Analysis completed by: 16/09/2024

Report Issue Number: 1

Report issued on: 17/09/2024

Samples Analysed: 3 soil samples

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-040998

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				311018	311019	311020
Sample Reference				export 020924	export 030924	export 040924
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				02/09/2024	03/09/2024	04/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.6	9.2	8.1
Total mass of sample received	kg	0.1	NONE	0.7	0.7	0.7

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	0.8	0.9	1.1
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6	6.7	7.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.6	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	0.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	15	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	19	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	21	47
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	18	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	31	40	42

Petroleum Hydrocarbons

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	< 10	14	11
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-040998

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
311018	export 020924	None Supplied	None Supplied	Brown sandy clay with gravel
311019	export 030924	None Supplied	None Supplied	Brown sandy clay with gravel
311020	export 040924	None Supplied	None Supplied	Brown sandy clay with gravel

Analytical Report Number : 24-040998

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS

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

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

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

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

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-023319

Project / Site name: Victoria North

Samples received on: 05/06/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 05/06/2024

Your order number: 11181

Analysis completed by: 11/06/2024

Report Issue Number: 1

Report issued on: 11/06/2024

Samples Analysed: 1 soil sample

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-023319

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				218126
Sample Reference				Export 03062024
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				03/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.1	NONE	1.1

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	8.6
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14
Boron (water soluble)	mg/kg	0.2	MCERTS	5.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	6.1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	90
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1600
Lead (aqua regia extractable)	mg/kg	1	MCERTS	510
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	99
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	2400

Petroleum Hydrocarbons

TPH (C10 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	570
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-023319

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
218126	Export 03062024	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-023319

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 24-029488

Project / Site name:	Victoria North	Samples received on:	08.07.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	08.07.2024
Your order number:	11181	Analysis completed by:	12.07.2024
Report Issue Number:	1	Report issued on:	12.07.2024
Samples Analysed:	1 soil sample		

Signe

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-029488

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				250669
Sample Reference				Export 030724
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				03/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.1	NONE	1.4

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	4.5
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21
Boron (water soluble)	mg/kg	0.2	MCERTS	3.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	190
Lead (aqua regia extractable)	mg/kg	1	MCERTS	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	350

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	26
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-029488

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
250669	Export 030724	None Supplied	None Supplied	Brown clay and sand with brick and gravel

Analytical Report Number : 24-029488

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution



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Analytical Report Number : 24-029489

Project / Site name:	Victoria North	Samples received on:	08.07.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	08.07.2024
Your order number:	11181	Analysis completed by:	12.07.2024
Report Issue Number:	1	Report issued on:	12.07.2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer

For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-029489

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				250670
Sample Reference				Export 040724
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				04/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.1	NONE	1.4

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.6
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14
Boron (water soluble)	mg/kg	0.2	MCERTS	9.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	370
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	560

Petroleum Hydrocarbons

TPH (EC10 - EC40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	360
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-029489
Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
250670	Export 040724	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation

Analytical Report Number : 24-029489

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-029490

Project / Site name:	Victoria North	Samples received on:	08.07.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	08.07.2024
Your order number:	11181	Analysis completed by:	12.07.2024
Report Issue Number:	1	Report issued on:	12.07.2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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soils - 4 weeks from reporting
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Analytical Report Number: 24-029490

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				250671
Sample Reference				Export 050724
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				05/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	10
Total mass of sample received	kg	0.1	NONE	1.4

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.8
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17
Boron (water soluble)	mg/kg	0.2	MCERTS	7.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	380
Lead (aqua regia extractable)	mg/kg	1	MCERTS	190
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	480

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	230
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-029490

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
250671	Export 050724	None Supplied	None Supplied	Brown loam with gravel and vegetation

Analytical Report Number : 24-029490

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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Total	Aliphatics & Aromatics
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AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
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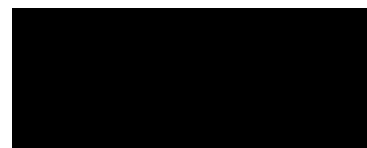
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Analytical Report Number : 24-024257

Project / Site name:	Victoria North	Samples received on:	10/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	10/06/2024
Your order number:	11181	Analysis completed by:	14/06/2024
Report Issue Number:	1	Report issued on:	17/06/2024
Samples Analysed:	3 soil samples		



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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Analytical Report Number: 24-024257

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	10
Total mass of sample received	kg	0.1	NONE	0.7	0.9	0.8

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.2	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	0.34	0.82
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	0.43
Acenaphthene	mg/kg	0.05	MCERTS	-	0.52	3.4
Fluorene	mg/kg	0.05	MCERTS	-	0.48	2.7
Phenanthrene	mg/kg	0.05	MCERTS	-	3.6	20
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	5.7
Fluoranthene	mg/kg	0.05	MCERTS	-	5.8	24
Pyrene	mg/kg	0.05	MCERTS	-	5.4	21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	3	9.5
Chrysene	mg/kg	0.05	MCERTS	-	3.2	11
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	3.4	12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	1.6	3.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.1	11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.7	5.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.38	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.9	7.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	34.3	139
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	18	35
Boron (water soluble)	mg/kg	0.2	MCERTS	6.4	14	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.6	6.6	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	40	330	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	530	3500	78
Lead (aqua regia extractable)	mg/kg	1	MCERTS	630	2000	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.5	2.2	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	46	160	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	820	3800	140

Analytical Report Number: 24-024257

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	-	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	-	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	-	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	11	11
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	54	39
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	430	500
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	490	550

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	-	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	-	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	-	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	< 1.0	2.5
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	7.2	25
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	26	70
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	110	430
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	140	530

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	480	-	-
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VOCs

Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0

Analytical Report Number: 24-024257

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0

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

Analytical Report Number : 24-024257

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
222923	Export 070624	None Supplied	None Supplied	Brown loam and clay with brick and vegetation
222924	Ramp	None Supplied	None Supplied	Brown loam and sand with gravel and plastic
222925	Ash Fill	None Supplied	None Supplied	Brown loam and sand with gravel

Analytical Report Number : 24-024257

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

Analytical Report Number : 24-024257

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-030451

Project / Site name: Victoria North

Your job number: 101221

Your order number: 11181

Report Issue Number: 1

Samples Analysed: 1 soil sample

Samples received on: 12/07/2024

**Samples instructed on/
Analysis started on:** 12/07/2024

Analysis completed by: 18/07/2024

Report issued on: 18/07/2024

Signed:

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

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

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

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

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

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An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-030451
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				255332
Sample Reference				Export 080724
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				08/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	11
Total mass of sample received	kg	0.1	NONE	0.8

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	3.5
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	160
Lead (aqua regia extractable)	mg/kg	1	MCERTS	270
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290

Petroleum Hydrocarbons

TPH (EC10 - EC40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	100
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-030451
Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
255332	Export 080724	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation

Analytical Report Number : 24-030451
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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The result for sum should be interpreted with caution

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Analytical Report Number : 24-030449

Project / Site name:	Victoria North	Samples received on:	12/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	12/07/2024
Your order number:	11181	Analysis completed by:	18/07/2024
Report Issue Number:	1	Report issued on:	18/07/2024
Samples Analysed:	1 soil sample		

Signed:



Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-030449

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				255326
Sample Reference				Export 090724
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				09/07/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	22
Total mass of sample received	kg	0.1	NONE	0.9

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	4.9
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21
Boron (water soluble)	mg/kg	0.2	MCERTS	3.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	89

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	26
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-030449

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
255326	Export 090724	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-030449

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 24-025308

Project / Site name: Victoria North

Your job number: 101221

Your order number: 11181

Report Issue Number: 1

Samples Analysed: 1 soil sample

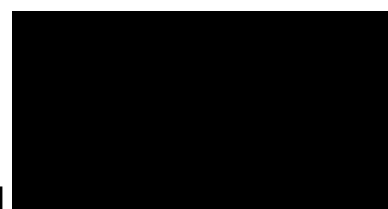
Samples received on: 14/06/2024

**Samples instructed on/
Analysis started on:** 14/06/2024

Analysis completed by: 20/06/2024

Report issued on: 20/06/2024

Signed



Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
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Analytical Report Number: 24-025308
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228873
Sample Reference				Export 110624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				11/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	44.4
Moisture Content	%	0.01	NONE	9.8
Total mass of sample received	kg	0.1	NONE	0.9

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	3.5
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Boron (water soluble)	mg/kg	0.2	MCERTS	2.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	200
Lead (aqua regia extractable)	mg/kg	1	MCERTS	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	460

Petroleum Hydrocarbons

TPH (EC10 - EC40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	510
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-025308
Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
228873	Export 110624	None Supplied	None Supplied	Brown loam and clay with vegetation and stones

Analytical Report Number : 24-025308
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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Acronym	Descriptions
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AL	Aliphatics
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Analytical Report Number : 24-030453

Project / Site name:	Victoria North	Samples received on:	12/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	12/07/2024
Your order number:	11181	Analysis completed by:	19/07/2024
Report Issue Number:	1	Report issued on:	19/07/2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-030453

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number	255337			
Sample Reference	Export 110724			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	11/07/2024			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.1	NONE	0.9

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17
Boron (water soluble)	mg/kg	0.2	MCERTS	4.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	290
Lead (aqua regia extractable)	mg/kg	1	MCERTS	190
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	34
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	380

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS, 1D, AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS, 1D, AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS, 1D, AL}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH, CU, 1D, AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH, CU, 1D, AL}	mg/kg	2	MCERTS	2.4
TPHCWG - Aliphatic >EC16 - EC21 _{EH, CU, 1D, AL}	mg/kg	8	MCERTS	8.1
TPHCWG - Aliphatic >EC21 - EC35 _{EH, CU, 1D, AL}	mg/kg	8	MCERTS	69
TPHCWG - Aliphatic >EC5 - EC35 _{EH, CU+HS, 1D, AL}	mg/kg	10	NONE	79

TPHCWG - Aromatic >EC5 - EC7 _{HS, 1D, AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS, 1D, AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS, 1D, AR}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH, CU, 1D, AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH, CU, 1D, AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH, CU, 1D, AR}	mg/kg	10	MCERTS	12
TPHCWG - Aromatic >EC21 - EC35 _{EH, CU, 1D, AR}	mg/kg	10	MCERTS	76
TPHCWG - Aromatic >EC5 - EC35 _{EH, CU+HS, 1D, AR}	mg/kg	10	NONE	87

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

HMRC LOI

Loss on Ignition @ 440°C	%	0.1	ISO 17025	4.48
Stones (20mm)	%	0.1	NONE	33.5

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

Analytical Report Number : 24-030453

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
255337	Export 110724	None Supplied	None Supplied	Brown clay and loam with gravel

Analytical Report Number : 24-030453

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
HMRC LOI Excise Notice LFT1	Loss on Ignition at 440 in accordance with HMRC method	HMRC LOI Excise Notice LFT1	L011B	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-025307

Project / Site name: Victoria North

Your job number: 101221

Your order number: 11181

Report Issue Number: 1

Samples Analysed: 1 soil sample

Samples received on: 14/06/2024

**Samples instructed on/
Analysis started on:** 14/06/2024

Analysis completed by: 21/06/2024

Report issued on: 21/06/2024

Signed:



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

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

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

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

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

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Analytical Report Number: 24-025307
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228872
Sample Reference				Export 130624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.1	NONE	0.9

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	6.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20
Boron (water soluble)	mg/kg	0.2	MCERTS	4.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	53
Copper (aqua regia extractable)	mg/kg	1	MCERTS	600
Lead (aqua regia extractable)	mg/kg	1	MCERTS	850
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	46
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1600

Petroleum Hydrocarbons

TPH (EC10 - EC40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	820
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-025307
Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
228872	Export 130624	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-025307
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
 For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
 For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
 Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
 Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
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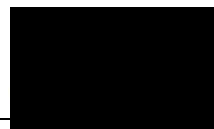
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Analytical Report Number : 24-026245

Project / Site name:	Victoria North	Samples received on:	19.06.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	19.06.2024
Your order number:	11181	Analysis completed by:	27.06.2024
Report Issue Number:	1	Report issued on:	27.06.2024
Samples Analysed:	1 soil sample		

Signed:



Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-026245

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				233731
Sample Reference				export170624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				17/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	14
Total mass of sample received	kg	0.1	NONE	1.5

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	7.9
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14
Boron (water soluble)	mg/kg	0.2	MCERTS	9.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.7
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	75
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1800
Lead (aqua regia extractable)	mg/kg	1	MCERTS	550
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	76
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1700

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	950
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-026245

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
233731	export170624	None Supplied	None Supplied	Brown sand with gravel

Analytical Report Number : 24-026245

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-026201

Project / Site name:	Victoria North	Samples received on:	19.06.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	19.06.2024
Your order number:	11181	Analysis completed by:	25.06.2024
Report Issue Number:	1	Report issued on:	25.06.2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-026201

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				233599
Sample Reference				Export 170624 B
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				17/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	10
Total mass of sample received	kg	0.1	NONE	0.9

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	3.5
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	220
Lead (aqua regia extractable)	mg/kg	1	MCERTS	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	300

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	240
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-026201

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
233599	Export 170624 B	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-026201

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-026198

Project / Site name:	Victoria North	Samples received on:	19.06.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	19.06.2024
Your order number:	11181	Analysis completed by:	25.06.2024
Report Issue Number:	1	Report issued on:	25.06.2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-026198

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				233592
Sample Reference				Export 180624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				18/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.1	NONE	0.9

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	3.6
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16
Boron (water soluble)	mg/kg	0.2	MCERTS	2.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	150
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	400

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	190
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-026198

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
233592	Export 180624	None Supplied	None Supplied	Brown sand with gravel

Analytical Report Number : 24-026198

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

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Analytical Report Number : 24-026199

Project / Site name:	Victoria North	Samples received on:	19.06.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	19.06.2024
Your order number:	11181	Analysis completed by:	25.06.2024
Report Issue Number:	1	Report issued on:	25.06.2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-026199

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				233593
Sample Reference				Export 190624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				19/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.1	NONE	0.7

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	1
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	39

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-026199

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
233593	Export 190624	None Supplied	None Supplied	Brown sand with gravel

Analytical Report Number : 24-026199

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

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Analytical Report Number : 24-026672

Project / Site name:	Victoria North	Samples received on:	21.06.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	21.06.2024
Your order number:	11181	Analysis completed by:	28.06.2024
Report Issue Number:	1	Report issued on:	28.06.2024
Samples Analysed:	1 soil sample		

Signed:



Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-026672

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				235803
Sample Reference				Export 200624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				20/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	14
Total mass of sample received	kg	0.1	NONE	1.2

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.1
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	32
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	320
Lead (aqua regia extractable)	mg/kg	1	MCERTS	3200
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	67
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	300

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	66
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-026672

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
235803	Export 200624	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation

Analytical Report Number : 24-026672

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

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Acronym	Descriptions
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FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
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e: reception@i2analytical.com

Analytical Report Number : 24-026673

Project / Site name:	Victoria North	Samples received on:	21.06.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	21.06.2024
Your order number:	11181	Analysis completed by:	27.06.2024
Report Issue Number:	1	Report issued on:	27.06.2024
Samples Analysed:	1 soil sample		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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Analytical Report Number: 24-026673

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				235804
Sample Reference				Export 210624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				21/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	14
Total mass of sample received	kg	0.1	NONE	1

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	39
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	290
Lead (aqua regia extractable)	mg/kg	1	MCERTS	790
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	61
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-026673

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
235804	Export 210624	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation

Analytical Report Number : 24-026673

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-033073

Project / Site name:	Victoria North	Samples received on:	26/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	26/07/2024
Your order number:	11181	Analysis completed by:	01/08/2024
Report Issue Number:	1	Report issued on:	01/08/2024
Samples Analysed:	4 soil samples		

Signed:

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

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

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

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

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

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

Analytical Report Number: 24-033073
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				270074	270075	270076	270077
Sample Reference				export 220724	6F2 crush 1	6F2 crush 2	6F2 crush 3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				22/07/2024	24/07/2024	24/07/2024	24/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	43.4	35.8	38.1
Moisture Content	%	0.01	NONE	7.3	5.4	6.3	6.2
Total mass of sample received	kg	0.1	NONE	1.2	1.1	1.1	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	-	KSZ	KSZ	KSZ
Actinolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	< 0.001	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	Loose Fibres	-
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General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	2.8	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	0.32	0.19	0.22
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.33	0.44	0.44
Fluorene	mg/kg	0.05	MCERTS	-	0.26	0.33	0.35
Phenanthrene	mg/kg	0.05	MCERTS	-	2.1	2.2	2.5
Anthracene	mg/kg	0.05	MCERTS	-	0.63	0.6	0.67
Fluoranthene	mg/kg	0.05	MCERTS	-	3.2	2.9	3
Pyrene	mg/kg	0.05	MCERTS	-	2.9	2.7	2.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	1.3	1.2	1.3
Chrysene	mg/kg	0.05	MCERTS	-	1.5	1.2	1.3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	1.4	1.4	1.6
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	0.78	0.57	0.54
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1.4	1.3	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.7	0.77	0.75
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.17	< 0.05	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.78	0.82	0.89

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	17.6	16.6	17.7
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Analytical Report Number: 24-033073
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				270074	270075	270076	270077
Sample Reference				export 220724	6F2 crush 1	6F2 crush 2	6F2 crush 3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				22/07/2024	24/07/2024	24/07/2024	24/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	8.8	8.6	9.7
Boron (water soluble)	mg/kg	0.2	MCERTS	4.6	1.2	0.8	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.5	0.5	0.5
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	18	19	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	200	56	45	46
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	95	75	88
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	14	14	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	200	120	140

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	< 1.0	1.2	1.2
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	24	26	16
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	65	90	51
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	280	470	250
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	370	590	310

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	-	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	1.6	2.7	1.6
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	15	10	11
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	60	64	54
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	240	250	210
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	320	330	270

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	110	-	-	-
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VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0

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



Analytical Report Number: 24-033073
Project / Site name: Victoria North
Your Order No: 11181

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
270076	6F2 crush 2		169	Loose Fibres	Chrysotile	< 0.001	< 0.001

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

Analytical Report Number : 24-033073

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
270074	export 220724	None Supplied	None Supplied	Brown loam and clay with gravel and plastic
270075	6F2 crush 1	None Supplied	None Supplied	Brown loam with plastic and stones
270076	6F2 crush 2	None Supplied	None Supplied	Brown loam with vegetation and stones
270077	6F2 crush 3	None Supplied	None Supplied	Brown loam with vegetation and stones

Analytical Report Number : 24-033073

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

Analytical Report Number : 24-033073

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-028511

Project / Site name: Victoria North

Your job number: 101221

Your order number: 11181

Report Issue Number: 1

Samples Analysed: 1 soil sample

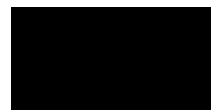
Samples received on: 02.07.2024

**Samples instructed on/
Analysis started on:** 02.07.2024

Analysis completed by: 09.07.2024

Report issued on: 09.07.2024

Signed:



Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-028511

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				245236
Sample Reference				Export 270624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				27/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	4.6
Total mass of sample received	kg	0.1	NONE	0.8

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	3.7
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	430
Lead (aqua regia extractable)	mg/kg	1	MCERTS	880
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230

Petroleum Hydrocarbons

TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	58
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-028511

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
245236	Export 270624	None Supplied	None Supplied	Brown sand with gravel and brick

Analytical Report Number : 24-028511

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
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FID	Flame Ionisation Detector
GC	Gas Chromatography
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1D	GC - Single coil/column gas chromatography
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Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
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Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-028513

Project / Site name:	Victoria North 2	Samples received on:	02.07.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	02.07.2024
Your order number:	11181	Analysis completed by:	08.07.2024
Report Issue Number:	1	Report issued on:	08.07.2024
Samples Analysed:	1 soil sample		

Signed:



Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-028513

Project / Site name: Victoria North 2

Your Order No: 11181

Lab Sample Number				245238
Sample Reference				Export 280624
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				28/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	6.1
Total mass of sample received	kg	0.1	NONE	0.9

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	1.7
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.7
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	63
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	81

Petroleum Hydrocarbons

TPH (EC10 - EC40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-028513
Project / Site name: Victoria North 2

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
245238	Export 280624	None Supplied	None Supplied	Brown sand with gravel

Analytical Report Number : 24-028513

Project / Site name: Victoria North 2

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-023325

Project / Site name: Victoria North

Samples received on: 05/06/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 05/06/2024

Your order number: 11181

Analysis completed by: 11/06/2024

Report Issue Number: 1

Report issued on: 11/06/2024

Samples Analysed: 1 soil sample



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-023325

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				218141
Sample Reference				Export A
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				23/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	3.5
Total mass of sample received	kg	0.1	NONE	1.1

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16
Boron (water soluble)	mg/kg	0.2	MCERTS	6.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	5.7
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	46
Copper (aqua regia extractable)	mg/kg	1	MCERTS	910
Lead (aqua regia extractable)	mg/kg	1	MCERTS	330
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	38
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	970

Petroleum Hydrocarbons

TPH (C10 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	530
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-023325

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
218141	Export A	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation

Analytical Report Number : 24-023325

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 24-023323

Project / Site name: Victoria North

Samples received on: 05/06/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 05/06/2024

Your order number: 11181

Analysis completed by: 11/06/2024

Report Issue Number: 1

Report issued on: 11/06/2024

Samples Analysed: 1 soil sample

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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Analytical Report Number: 24-023323

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				218138
Sample Reference				Export B
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				24/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.1	NONE	1.2

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	1.9
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120

Petroleum Hydrocarbons

TPH (C10 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-023323

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
218138	Export B	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-023323

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 24-023320

Project / Site name: Victoria North

Samples received on: 05/06/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 05/06/2024

Your order number: 11181

Analysis completed by: 11/06/2024

Report Issue Number: 1

Report issued on: 11/06/2024

Samples Analysed: 1 soil sample

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-023320

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				218127
Sample Reference				Export C
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				28/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.1	NONE	1.1

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.4
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15
Boron (water soluble)	mg/kg	0.2	MCERTS	4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	57
Copper (aqua regia extractable)	mg/kg	1	MCERTS	810
Lead (aqua regia extractable)	mg/kg	1	MCERTS	460
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	3.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	140
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1200

Petroleum Hydrocarbons

TPH (C10 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	780
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-023320

Project / Site name: Victoria North

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
218127	Export C	None Supplied	None Supplied	Brown sand with gravel and brick

Analytical Report Number : 24-023320

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
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CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-023322

Project / Site name: Victoria North

Samples received on: 05/06/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 05/06/2024

Your order number: 11181

Analysis completed by: 11/06/2024

Report Issue Number: 1

Report issued on: 11/06/2024

Samples Analysed: 1 soil sample



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-023322

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				218137
Sample Reference				Export D
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				29/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.1	NONE	1.2

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	0.7
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36

Petroleum Hydrocarbons

TPH (C10 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-023322

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
218137	Export D	None Supplied	None Supplied	Brown sand with gravel

Analytical Report Number : 24-023322

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Name FootOfPile1 Class Soil-FP Date 25/03/2024 Time 13:25 Duration 15 s

Element Zn ppm Cu ppm Pb ppm Cr ppm Ni ppm Hg ppm Cd ppm
2013 1601 715 175 95 24 23

Name Ramp1 Class Soil-FP Date 25/03/2024 Time 13:25 Duration 15 s

Element Cu ppm Zn ppm Pb ppm Cr ppm Ni ppm As ppm Hg ppm Cd ppm
2509 2423 870 430 164 47 37 4

Name Pile1 Class Soil-FP Date 25/03/2024 Time 13:26 Duration 15 s

Element Zn ppm Cu ppm Pb ppm Cr ppm Ni ppm Cd ppm Hg ppm As ppm
951 680 338 159 88 21 9 8

Name FootOfPile2 Class Soil-FP Date 25/03/2024 Time 13:26 Duration 15 s

Element Zn ppm Cu ppm Pb ppm Ni ppm Cr ppm Cd ppm Hg ppm
1142 885 497 75 63 14 11

Name Ramp2 Class Soil-FP Date 25/03/2024 Time 13:27 Duration 15 s

Element Cu ppm Zn ppm Pb ppm Ni ppm As ppm Cr ppm Hg ppm Cd ppm
7412 5058 1110 282 178 101 48 12

Name Pile2 Class Soil-FP Date 25/03/2024 Time 13:27 Duration 15 s

Element Zn ppm Cu ppm Pb ppm Ni ppm Cr ppm Hg ppm Cd ppm As ppm
1259 683 414 82 65 18 15 14

Name BlackSoil Class Soil-FP Date 25/03/2024 Time 13:28 Duration 15 s

Element Zn ppm Cu ppm Pb ppm As ppm Cr ppm Ni ppm Hg ppm Cd ppm
1842 497 455 102 100 100 47 9

Element Se ppm
4



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Analytical Report Number : 24-021274

Project / Site name:	Victoria North	Samples received on:	23/05/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	23/05/2024
Your order number:	11181	Analysis completed by:	31/05/2024
Report Issue Number:	1	Report issued on:	31/05/2024
Samples Analysed:	3 soil samples		

Signed:

Izabela Wójcik
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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soils - 4 weeks from reporting
leachates - 2 weeks from reporting
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Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-021274

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				208405	208406	208407
Sample Reference				Asb Stock 1	Small Piles 1	Small Piles 2
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				20/05/2024	20/05/2024	20/05/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	51
Moisture Content	%	0.01	NONE	17	14	13
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MBI	MBI	MBI
Actinolite detected	Type	N/A	ISO 17025	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	Not-detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	Detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	Not-detected	-	-

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	-	-
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General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	3.3	1.6	1.5
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.29	0.64	0.51
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	0.21	0.18
Acenaphthene	mg/kg	0.05	MCERTS	0.44	0.81	0.73
Fluorene	mg/kg	0.05	MCERTS	0.34	0.66	0.66
Phenanthrene	mg/kg	0.05	MCERTS	0.71	1.6	1.4
Anthracene	mg/kg	0.05	MCERTS	0.23	0.46	0.49
Fluoranthene	mg/kg	0.05	MCERTS	0.71	2.2	1.6
Pyrene	mg/kg	0.05	MCERTS	0.63	2	1.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.27	0.96	0.64
Chrysene	mg/kg	0.05	MCERTS	0.3	0.97	0.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.38	1.3	0.99
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.13	0.5	0.23
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.32	1.2	0.77
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.14	0.57	0.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.09	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.18	0.68	0.48

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	5.14	14.8	11.2
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Analytical Report Number: 24-021274

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				208405	208406	208407
Sample Reference				Asb Stock 1	Small Piles 1	Small Piles 2
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				20/05/2024	20/05/2024	20/05/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	4.7	5
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	1.2	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.5	1.1
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	20	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	26	80	140
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	63	69
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	18	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	90	260	360

Petroleum Hydrocarbons

TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	4	3
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	44	38
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	48	41

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	2.8	3.8	3.8
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	33	26
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	37	30

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0

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

Analytical Report Number : 24-021274

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
208405	Asb Stock 1	None Supplied	None Supplied	Brown clay and sand
208406	Small Piles 1	None Supplied	None Supplied	Brown sand with gravel and vegetation
208407	Small Piles 2	None Supplied	None Supplied	Brown sandy clay with vegetation and stones

Analytical Report Number : 24-021274

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-021274

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Name	Class		Date		Time			Duration		
JZ106-1	Soil-FP				#####			12:17		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm			
	661	429	318	57	47	13	5			
Name	Class		Date		Time			Duration		
JZ106-2	Soil-FP				#####			12:18		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	Se ppm		
	1381	1074	544	99	63	17	16	3		
Name	Class		Date		Time			Duration		
JZ106-3	Soil-FP				#####			12:19		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	Cd ppm			
	2022	1651	538	106	74	15	7			
Name	Class		Date		Time			Duration		
JZ105-4	Soil-FP				#####			12:20		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm		
	2219	1683	599	119	109	43	25	13		
Name	Class		Date		Time			Duration		
JZ105-1	Soil-FP				#####			12:25		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	Cd ppm		
	1195	718	428	66	65	25	9	7		
Name	Class		Date		Time			Duration		
JZ105-3	Soil-FP				#####			12:27		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm			
	1436	1038	468	83	63	28	19			
Name	Class		Date		Time			Duration		
JZ105-4	Soil-FP				#####			12:28		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Cd ppm	Hg ppm		
	1007	805	379	113	80	15	9	6		
Name	Class		Date		Time			Duration		
JZ104-1	Soil-FP				#####			12:28		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm			
	589	417	306	45	35	23	10			
Name	Class		Date		Time			Duration		
JZ104-2	Soil-FP				#####			12:30		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm			
	1472	684	304	78	74	17	9			
Name	Class		Date		Time			Duration		
JZ104-3	Soil-FP				#####			12:31		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	Cd ppm		
	1314	993	473	82	70	10	8	7		
Name	Class		Date		Time			Duration		
JZ104-4	Soil-FP				#####			12:31		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	Cd ppm		
	1342	1079	539	90	86	21	15	6		
Name	Class		Date		Time			Duration		
JZ103-1	Soil-FP				#####			12:34		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	Cd ppm		

	1568	1132	440	302	86	19	19	1
Name	Class	Date				Time		Duration
JZ103-2	Soil-FP			#####		12:34		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2027	1624	637	131	61	38	19	10
Name	Class	Date				Time		Duration
JZ103-3	Soil-FP			#####		12:35		15 s
Element	Zn ppm	Pb ppm	Cu ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	Se ppm
	2338	2029	1598	104	102	30	7	3
Name	Class	Date				Time		Duration
JZ103-4	Soil-FP			#####		12:36		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2432	2021	823	142	91	52	20	15
Name	Class	Date				Time		Duration
JZ106-1	Soil-FP			#####		12:38		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	As ppm	Hg ppm
	901	457	196	76	51	17	12	6
Name	Class	Date				Time		Duration
JZ106-2	Soil-FP			#####		12:38		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	
	3322	980	360	84	70	17	12	
Name	Class	Date				Time		Duration
JZ106-3	Soil-FP			#####		12:39		15 s
Element	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2203	1626	1420	109	83	47	31	5
Name	Class	Date				Time		Duration
JZ106-4	Soil-FP			#####		12:39		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	4278	3130	1211	219	83	56	38	15
Name	Class	Date				Time		Duration
JZ106-5	Soil-FP			#####		12:40		15 s
Element	Cu ppm	Zn ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	
	892	874	240	85	46	19	9	
Name	Class	Date				Time		Duration
JZ106-6	Soil-FP			#####		12:40		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	Cd ppm
	1082	614	282	52	51	17	11	4
Name	Class	Date				Time		Duration
JZ106-7	Soil-FP			#####		12:41		15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	3277	2526	970	154	80	43	28	26
Name	Class	Date				Time		Duration
JZ106-8	Soil-FP			#####		12:41		15 s
Element	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2420	1854	536	103	69	31	23	9
Name	Class	Date				Time		Duration
JZ106-9	Soil-FP			#####		12:42		15 s
Element	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm	As ppm

	3002	1711	487	80	54	17	15	6
Name	Class	Date		Time			Duration	
JZ106-10	Soil-FP			#####	12:42			15 s
Element	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm	As ppm
	6654	2162	619	104	76	28	16	2
Name	Class	Date		Time			Duration	
JZ106-11	Soil-FP			#####	12:43			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Hg ppm	Cr ppm	Ni ppm	As ppm	Cd ppm
	1361	1262	540	77	74	69	63	6
Name	Class	Date		Time			Duration	
JZ106-12	Soil-FP			#####	12:44			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	5645	2232	686	120	98	44	31	15
Name	Class	Date		Time			Duration	
JZ106-13	Soil-FP			#####	12:45			15 s
Element	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	As ppm
	3951	2829	926	183	82	29	21	20
Name	Class	Date		Time			Duration	
JZ102B-1	Soil-FP			#####	12:46			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	Cd ppm	As ppm
	3518	2248	877	163	143	17	17	5
Name	Class	Date		Time			Duration	
JZ102B-2	Soil-FP			#####	12:47			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	Cd ppm
	2366	1437	565	105	74	23	15	1
Name	Class	Date		Time			Duration	
JZ102B-3	Soil-FP			#####	12:47			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	As ppm	Cd ppm
	1453	1329	382	87	73	22	7	0
Name	Class	Date		Time			Duration	
JZ102B-4	Soil-FP			#####	12:48			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	Cd ppm
	3188	2350	872	158	94	20	18	8
Name	Class	Date		Time			Duration	
JZ102B-5	Soil-FP			#####	12:49			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm	
	2209	2111	621	98	68	24	12	
Name	Class	Date		Time			Duration	
JZ102B-6	Soil-FP			#####	12:50			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2765	1757	861	121	64	49	32	12
Name	Class	Date		Time			Duration	
JZ102B-7	Soil-FP			#####	12:50			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2047	1365	547	112	81	36	22	7
Name	Class	Date		Time			Duration	
JZ102B-8	Soil-FP			#####	12:51			15 s
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	As ppm	

	1244	936	367	86	56	9	4	
Name	Class	Date		Time		Duration		
JZ102B-9	Soil-FP	#####			12:51	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	Cd ppm
	2492	1920	501	197	123	108	44	6

Name	Class	Date		Time		Duration		
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JZ102A-1	Soil-FP	#####			12:53	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	Cd ppm
	2342	1627	855	98	80	30	11	9

Name	Class	Date		Time		Duration		
JZ102A-2	Soil-FP	#####			12:54	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	As ppm	Cr ppm	Hg ppm	Cd ppm
	1600	1139	607	96	52	41	33	10

Name	Class	Date		Time		Duration		
JZ102A-3	Soil-FP	#####			12:54	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Se ppm	Hg ppm	Cd ppm
	1477	1416	494	81	77	23	14	5

Name	Class	Date		Time		Duration		
JZ102A-4	Soil-FP	#####			12:56	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	
	1576	938	620	106	82	20	7	

Name	Class	Date		Time		Duration		
JZ102A-5	Soil-FP	#####			12:59	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2942	2449	938	161	106	71	47	14

Name	Class	Date		Time		Duration		
JZ102A-6	Soil-FP	#####			12:59	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm	As ppm
	1584	1149	536	86	85	20	20	12

Name	Class	Date		Time		Duration		
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JZ103B-1	Soil-FP	#####			13:02	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	As ppm	Cd ppm
	979	667	275	62	57	10	5	0

Name	Class	Date		Time		Duration		
JZ103B-2	Soil-FP	#####			13:02	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	Cd ppm	
	1255	952	373	107	93	15	7	

Name	Class	Date		Time		Duration		
JZ103B-3	Soil-FP	#####			13:03	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	As ppm
	1179	1064	532	112	71	8	3	3

Name	Class	Date		Time		Duration		
JZ103B-4	Soil-FP	#####			13:04	15 s		
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	Cd ppm	
	1055	890	402	65	58	11	10	

Name	Class	Date		Time		Duration		
JZ103B-5	Soil-FP	#####			13:05	15 s		
Element	Cu ppm	Zn ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	As ppm	Cd ppm

	1335	1245	383	70	65	14	11	3
Name	Class	Date		Time			Duration	
JZ103B-6	Soil-FP	#####			13:06		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	
	2124	2080	573	153	121	23	17	
Name	Class	Date		Time			Duration	
JZ103B-7	Soil-FP	#####			13:07		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm		
	568	441	194	32	29	6		
Name	Class	Date		Time			Duration	
JZ103B-8	Soil-FP	#####			13:07		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Cr ppm	Ni ppm	Hg ppm	As ppm	
	827	702	280	51	43	10	8	
Name	Class	Date		Time			Duration	
JZ103B-9	Soil-FP	#####			13:08		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	1725	1311	612	104	84	74	36	0
Name	Class	Date		Time			Duration	
JZ103B-10	Soil-FP	#####			13:09		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm	As ppm
	2967	1255	827	172	97	23	17	17
Name	Class	Date		Time			Duration	
JZ103B-11	Soil-FP	#####			13:10		15 s	
Element	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm		
	1542	1223	1104	67	64	11		
Name	Class	Date		Time			Duration	
JZ103B-12	Soil-FP	#####			13:10		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	
	1513	1135	366	58	46	14	6	
Name	Class	Date		Time			Duration	
JZ103B-13	Soil-FP	#####			13:11		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm		
	1315	825	381	67	49	12		
Name	Class	Date		Time			Duration	
JZ103B-14	Soil-FP	#####			13:11		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	1128	858	286	65	57	21	14	1
Name	Class	Date		Time			Duration	
JZ101A-1	Soil-FP	#####			13:12		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	
	1056	482	341	64	36	9	8	
Name	Class	Date		Time			Duration	
JZ101A-2	Soil-FP	#####			13:13		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	1167	428	268	64	40	13	10	9
Name	Class	Date		Time			Duration	
JZ101A-3	Soil-FP	#####			13:14		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm

	1468	863	377	101	70	22	16	10
Name	Class	Date		Time			Duration	
JZ101A-4	Soil-FP	#####			13:15		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm		
	951	634	230	44	34	6		
Name	Class	Date		Time			Duration	
JZ101A-5	Soil-FP	#####			13:15		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	
	2115	1519	774	116	77	23	1	
Name	Class	Date		Time			Duration	
JZ101A-6	Soil-FP	#####			13:16		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	Cd ppm
	2203	1376	588	113	75	20	5	4
Name	Class	Date		Time			Duration	
JZ101A-7	Soil-FP	#####			13:16		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Hg ppm	Cd ppm	As ppm
	2716	1922	874	149	93	24	17	10
Name	Class	Date		Time			Duration	
JZ101A-8	Soil-FP	#####			13:17		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	Cd ppm	Hg ppm	As ppm
	1591	1042	473	134	117	15	10	3
Name	Class	Date		Time			Duration	
JZ101B-1	Soil-FP	#####			13:18		15 s	
Element	Cu ppm	Zn ppm	Pb ppm	Cr ppm	Ni ppm	As ppm	Hg ppm	
	3850	1135	370	48	46	22	16	
Name	Class	Date		Time			Duration	
JZ101B-2	Soil-FP	#####			13:19		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	4858	3572	1243	273	104	69	29	17
Name	Class	Date		Time			Duration	
JZ101B-3	Soil-FP	#####			13:19		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Cd ppm	Hg ppm
	3762	3041	1428	235	114	43	34	30
Name	Class	Date		Time			Duration	
JZ101B-4	Soil-FP	#####			13:20		15 s	
Element	Zn ppm	Cu ppm	Pb ppm	Ni ppm	Cr ppm	As ppm	Hg ppm	Cd ppm
	2325	1527	696	151	70	26	18	9
Name	Class	Date		Time			Duration	
JZ101B-5	Soil-FP	#####			09:45		15 s	
Element	Zn ppm	Pb ppm	Cu ppm	Ni ppm	Cr ppm	Hg ppm	As ppm	
	108	104	59	34	30	4	2	



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendices Ac and Ad

Expected and unexpected contamination analyses. Including 6F2 and TCE

(note some analyses duplicated in Appendix J)



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Normec DETS Limited
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t: 01622 850410

DETS Report No: 24-03082

Site Reference: Dantzic Street, NT04

Project / Job Ref: LKR241009

Order No: LKR241009/240322/DM

Sample Receipt Date: 25/03/2024

Sample Scheduled Date: 25/03/2024

Report Issue Number: 1

Reporting Date: 02/04/2024

Authorised by:



Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



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Soil Analysis Certificate						
DETS Report No: 24-03082	~Date Sampled	22/03/24	22/03/24	22/03/24	22/03/24	22/03/24
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Dantzic Street, NT04	~TP / BH No	WS01	TW01	TW02	TW03	TW04
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 02/04/2024	DETS Sample No	706041	706042	706043	706044	706045

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	ISO17025	8.4	7.4	7.9	7.6
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	ISO17025	89	287	139	144
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	ISO17025	0.09	0.29	0.14	0.14
Organic Matter (SOM)	%	< 0.1	ISO17025	12.3	20.4	17.6	13
Arsenic (As)	mg/kg	< 2	ISO17025	9	17	13	11
W/S Boron	mg/kg	< 1	NONE	1.9	6	4.5	2.2
Cadmium (Cd)	mg/kg	< 0.2	ISO17025	0.7	1.1	0.9	0.7
Chromium (Cr)	mg/kg	< 2	ISO17025	29	39	35	33
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	ISO17025	122	179	137	101
Lead (Pb)	mg/kg	< 3	ISO17025	287	365	300	332
Mercury (Hg)	mg/kg	< 1	ISO17025	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	ISO17025	18	26	22	20
Selenium (Se)	mg/kg	< 2	ISO17025	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	ISO17025	19	32	23	20
Zinc (Zn)	mg/kg	< 3	ISO17025	1800	993	894	1600
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

~ Sample details provided by the customer

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-03082	~Date Sampled	22/03/24	22/03/24	22/03/24	22/03/24	
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
~Site Reference: Dantzie Street, NT04	~TP / BH No	TW01	TW02	TW03	TW04	
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 02/04/2024	DETS Sample No	706042	706043	706044	706045	

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	ISO17025	0.19	1.88	0.60	< 0.1
Acenaphthylene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	ISO17025	< 0.1	0.62	0.92	< 0.1
Fluorene	mg/kg	< 0.1	ISO17025	< 0.1	0.81	2.01	0.37
Phenanthrene	mg/kg	< 0.1	ISO17025	1.06	2.82	4.79	1.13
Anthracene	mg/kg	< 0.1	ISO17025	< 0.1	0.31	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	ISO17025	1.12	2.71	2.42	0.88
Pyrene	mg/kg	< 0.1	ISO17025	1.59	2.38	2.73	0.88
Benzo(a)anthracene	mg/kg	< 0.1	ISO17025	0.40	1.01	0.89	0.31
Chrysene	mg/kg	< 0.1	ISO17025	0.46	1.10	1.16	0.43
Benzo(b)fluoranthene	mg/kg	< 0.1	ISO17025	0.53	1.14	1.06	0.39
Benzo(k)fluoranthene	mg/kg	< 0.1	ISO17025	0.19	0.46	0.29	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	ISO17025	0.44	1.22	1.02	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	ISO17025	< 0.1	0.46	0.36	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	ISO17025	< 0.1	0.41	0.41	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	ISO17025	6	17.3	18.7	4.7

~ Sample details provided by the customer

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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 24-03082	~Date Sampled	22/03/24	22/03/24	22/03/24	22/03/24	22/03/24
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Dantzic Street, NT04	~TP / BH No	WS01	TW01	TW02	TW03	TW04
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 02/04/2024	DETS Sample No	706041	706042	706043	706044	706045

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	ISO17025	< 2	26	4	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	ISO17025	11	47	24	14
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	ISO17025	441	277	413	162
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	ISO17025	1908	760	953	282
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	ISO17025	4356	3242	2004	588
Aliphatic >C34 - C44	mg/kg	< 10	NONE	726	275	187	60
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	7440	4627	3585	1106
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	ISO17025	24	76	38	2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	ISO17025	23	53	40	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	ISO17025	172	94	293	23
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	ISO17025	718	222	552	59
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	ISO17025	1264	564	411	24
Aromatic >C35 - C44	mg/kg	< 10	NONE	160	< 10	< 10	< 10
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	2361	1010	1334	109
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	9802	5636	4919	1215

~ Sample details provided by the customer

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-03082	~Date Sampled	22/03/24	22/03/24	22/03/24	22/03/24	
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
~Site Reference: Dantzic Street, NT04	~TP / BH No	TW01	TW02	TW03	TW04	
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 02/04/2024	DETS Sample No	706042	706043	706044	706045	

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Benzene : HS_1D_MS	ug/kg	< 2	ISO17025	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	ISO17025	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	ISO17025	285	259	176	101
p & m-xylene : HS_1D_MS	ug/kg	< 2	ISO17025	594	311010	424	167
o-xylene : HS_1D_MS	ug/kg	< 2	ISO17025	306	< 2	193	86
MTBE : HS_1D_MS	ug/kg	< 5	ISO17025	< 5	< 5	< 5	< 5

~ Sample details provided by the customer

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Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
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Maidstone
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Tel : 01622 850410



Water Analysis Certificate						
DETS Report No: 24-03082	~Date Sampled	22/03/24	22/03/24	22/03/24	22/03/24	22/03/24
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Dantzic Street, NT04	~TP / BH No	WS01	TW01	TW02	TW03	TW04
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 02/04/2024	DETS Sample No	706041	706042	706043	706044	706045

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
pH	pH Units	N/a	ISO17025	7.7			
Total Cyanide	ug/l	< 5	ISO17025	< 5			
Free Cyanide	ug/l	< 5	NONE	< 5			
Sulphate as SO ₄	mg/l	< 1	ISO17025	33			
Dissolved Organic Carbon (DOC)	mg/l	<1.0	ISO17025	18			
Hardness - Total	mgCaCO ₃ /l	< 0.25	NONE	113			
Arsenic (dissolved)	ug/l	< 0.2	ISO17025	0.6			
Boron (dissolved)	ug/l	< 1	ISO17025	52			
Cadmium (dissolved)	ug/l	< 0.2	ISO17025	< 0.2			
Chromium (dissolved)	ug/l	< 0.2	ISO17025	< 0.2			
Chromium (hexavalent)	ug/l	< 20	NONE	< 20			
Copper (dissolved)	ug/l	< 0.2	ISO17025	0.6			
Lead (dissolved)	ug/l	< 0.2	ISO17025	< 0.2			
Mercury (dissolved)	ug/l	< 0.04	ISO17025	< 0.04			
Nickel (dissolved)	ug/l	< 0.2	ISO17025	2.9			
Selenium (dissolved)	ug/l	< 0.2	ISO17025	< 0.2			
Vanadium (dissolved)	ug/l	< 0.2	ISO17025	0.2			
Zinc (dissolved)	ug/l	< 1	ISO17025	2			
Calcium (dissolved)	mg/l	< 0.1	ISO17025	42.7			
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10			

Subcontracted analysis ^(S)

Insufficient sample ^{I/S}

Unsuitable Sample ^{U/S}

~ Sample details provided by the customer

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Water Analysis Certificate - Speciated PAH						
DETS Report No: 24-03082	~Date Sampled	22/03/24				
LK Consult Limited	~Time Sampled	None Supplied				
~Site Reference: Dantzic Street, NT04	~TP / BH No	WS01				
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied				
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied				
Reporting Date: 02/04/2024	DETS Sample No	706041				

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	0.14			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	0.04			
Fluorene	ug/l	< 0.01	NONE	0.08			
Phenanthrene	ug/l	< 0.01	NONE	0.23			
Anthracene	ug/l	< 0.01	NONE	0.03			
Fluoranthene	ug/l	< 0.01	NONE	0.16			
Pyrene	ug/l	< 0.01	NONE	0.20			
Benzo(a)anthracene	ug/l	< 0.01	NONE	0.04			
Chrysene	ug/l	< 0.01	NONE	0.05			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01			
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.16	NONE	0.97			

~ Sample details provided by the customer



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Water Analysis Certificate - TPH CWG Banded						
DETS Report No: 24-03082	~Date Sampled	22/03/24	22/03/24	22/03/24	22/03/24	22/03/24
LK Consult Limited	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Dantzic Street, NT04	~TP / BH No	WS01	TW01	TW02	TW03	TW04
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 02/04/2024	DETS Sample No	706041	706042	706043	706044	706045

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Aliphatic >C5 - C6 : HS 1D MS AL	ug/l	< 10	NONE	< 10			
Aliphatic >C6 - C8 : HS 1D MS AL	ug/l	< 10	NONE	< 10			
Aliphatic >C8 - C10 : EH CU 1D AL	ug/l	< 10	NONE	< 10			
Aliphatic >C10 - C12 : EH CU 1D AL	ug/l	< 10	NONE	25			
Aliphatic >C12 - C16 : EH CU 1D AL	ug/l	< 10	NONE	579			
Aliphatic >C16 - C21 : EH CU 1D AL	ug/l	< 10	NONE	1595			
Aliphatic >C21 - C34 : EH CU 1D AL	ug/l	< 10	NONE	3302			
Aliphatic >C34 - C44	ug/l	< 10	NONE	373			
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	5873			
Aromatic >C5 - C7 : HS 1D MS AR	ug/l	< 10	NONE	< 10			
Aromatic >C7 - C8 : HS 1D MS AR	ug/l	< 10	NONE	< 10			
Aromatic >C8 - C10 : EH CU 1D AR	ug/l	< 10	NONE	< 10			
Aromatic >C10 - C12 : EH CU 1D AR	ug/l	< 10	NONE	15			
Aromatic >C12 - C16 : EH CU 1D AR	ug/l	< 10	NONE	189			
Aromatic >C16 - C21 : EH CU 1D AR	ug/l	< 10	NONE	543			
Aromatic >C21 - C35 : EH CU 1D AR	ug/l	< 10	NONE	931			
Aromatic >C35 - C44	ug/l	< 10	NONE	72			
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	1749			
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	7622			

~ Sample details provided by the customer

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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-03082	~Date Sampled	22/03/24				
LK Consult Limited	~Time Sampled	None Supplied				
~Site Reference: Dantzic Street, NT04	~TP / BH No	WS01				
~Project / Job Ref: LKR241009	~Additional Refs	None Supplied				
~Order No: LKR241009/240322/DM	~Depth (m)	None Supplied				
Reporting Date: 02/04/2024	DETS Sample No	706041				

Determinand	Unit	RL	Accreditation				
Benzene : HS_1D_MS	ug/l	< 1	ISO17025	< 1			
Toluene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
Ethylbenzene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
p & m-xylene : HS_1D_MS	ug/l	< 10	ISO17025	< 10			
o-xylene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
MTBE : HS_1D_MS	ug/l	< 10	ISO17025	< 10			

~ Sample details provided by the customer



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4480

Soil Analysis Certificate - Sample Descriptions

DETS Report No: 24-03082

LK Consult Limited

~Site Reference: Dantzic Street, NT04

~Project / Job Ref: LKR241009

~Order No: LKR241009/240322/DM

Reporting Date: 02/04/2024

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
706042	TW01	None Supplied	None Supplied	30.1	Black sludge with stones and vegetation
706043	TW02	None Supplied	None Supplied	51.7	Black sludge
706044	TW03	None Supplied	None Supplied	58.6	Black sludge
706045	TW04	None Supplied	None Supplied	51.3	Black sludge with vegetation

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/s}

Unsuitable Sample ^{u/s}

~ Sample details provided by the customer



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-03082

LK Consult Limited

~Site Reference: Dantzic Street, NT04

~Project / Job Ref: LKR241009

~Order No: LKR241009/240322/DM

Reporting Date: 02/04/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

~ Sample details provided by the customer



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-03082

LK Consult Limited

~Site Reference: Dantzic Street, NT04

~Project / Job Ref: LKR241009

~Order No: LKR241009/240322/DM

Reporting Date: 02/04/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	U	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (COD)	Determination using BOD sensors measuring the change of pressure	E133
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered

UF Unfiltered

~ Sample details provided by the customer



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List of HWOL Acronyms and Operators

DETS Report No: 24-03082

LK Consult Limited

~Site Reference: Dantzic Street, NT04

~Project / Job Ref: LKR241009

~Order No: LKR241009/240322/DM

Reporting Date: 02/04/2024

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by the customer

Benzene - HS_1D_MS

Ethylbenzene - HS_1D_MS

MTBE - HS_1D_MS

TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL

TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL

TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL

TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL

TPH CWG - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL

TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL

TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL

TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL

TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR

TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR

TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR

TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR

TPH CWG - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR

TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR

TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR

TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR

TPH CWG - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total

Toluene - HS_1D_MS

m & p-xylene - HS_1D_MS

o-Xylene - HS_1D_MS

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Analytical Report Number : 24-011519

Project / Site name: Victoria North

Samples received on: 28/03/2024

Your job number: 101215

**Samples instructed on/
Analysis started on:** 28/03/2024

Your order number: 10946

Analysis completed by: 09/04/2024

Report Issue Number: 1

Report issued on: 09/04/2024

Samples Analysed: 1 soil sample

Signed:

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

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

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

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

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

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

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

Analytical Report Number: 24-011519

Project / Site name: Victoria North

Your Order No: 10946

Lab Sample Number	157809			
Sample Reference	LFT01 Contents			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	26/03/2024			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	36
Total mass of sample received	kg	0.1	NONE	1.2

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	8.9
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13
Boron (water soluble)	mg/kg	0.2	MCERTS	5.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	49
Copper (aqua regia extractable)	mg/kg	1	MCERTS	130
Lead (aqua regia extractable)	mg/kg	1	MCERTS	680
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	900

Petroleum Hydrocarbons

TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	0.26
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	72
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	3300 \$\$
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	9300 \$\$
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	44000 \$\$
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	57000 \$\$

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	0.54
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	76
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	1900 \$\$
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	4400 \$\$
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	8100 \$\$
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	14000 \$\$

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0

Analytical Report Number: 24-011519

Project / Site name: Victoria North

Your Order No: 10946

Lab Sample Number				157809
Sample Reference				LFT01 Contents
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				26/03/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Trichloroethene	µg/kg	5	NONE	< 5.0#
Dibromomethane	µg/kg	5	ISO 17025	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Toluene	µg/kg	5	MCERTS	14
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	64
p & m-Xylene	µg/kg	5	MCERTS	310
Styrene	µg/kg	5	ISO 17025	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0
o-Xylene	µg/kg	5	MCERTS	110
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	28
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	60
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	220
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0

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

Analytical Report Number : 24-011519

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
157809	LFT01 Contents	None Supplied	None Supplied	Brown loam with oil / petroleum

Analytical Report Number : 24-011519

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-011519

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised

\$\$ - Result was reported from high dilution. The result should be interpreted with caution



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Analytical Report Number : 24-020519

Project / Site name:	Victoria North	Samples received on:	20/05/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	20/05/2024
Your order number:	11181	Analysis completed by:	28/05/2024
Report Issue Number:	1	Report issued on:	28/05/2024
Samples Analysed:	1 soil sample - 1 water sample		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-020519

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				204208
Sample Reference				Int Sludge
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				15/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	43
Total mass of sample received	kg	0.1	NONE	1.1

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	12
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	11
Acenaphthylene	mg/kg	0.05	MCERTS	1.7
Acenaphthene	mg/kg	0.05	MCERTS	23
Fluorene	mg/kg	0.05	MCERTS	18
Phenanthrene	mg/kg	0.05	MCERTS	80
Anthracene	mg/kg	0.05	MCERTS	19
Fluoranthene	mg/kg	0.05	MCERTS	89
Pyrene	mg/kg	0.05	MCERTS	79
Benzo(a)anthracene	mg/kg	0.05	MCERTS	35
Chrysene	mg/kg	0.05	MCERTS	39
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	42
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	18
Benzo(a)pyrene	mg/kg	0.05	MCERTS	36
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	20
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	5.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	21

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	539
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	34
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.7
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	41
Copper (aqua regia extractable)	mg/kg	1	MCERTS	160
Lead (aqua regia extractable)	mg/kg	1	MCERTS	350
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	710

Analytical Report Number: 24-020519

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				204208
Sample Reference				Int Sludge
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				15/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	1.4
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	63
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	230
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	1200
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	1500

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	12
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	100
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	300
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	770
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	1200

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0 ##
Dibromomethane	µg/kg	5	ISO 17025	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0

Analytical Report Number: 24-020519

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				204208
Sample Reference				Int Sludge
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				15/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0

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



4041



Analytical Report Number: 24-020519

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				204209
Sample Reference				Tank Water
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				15/05/2024
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	42
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	0.51
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.26
Fluorene	µg/l	0.01	ISO 17025	0.18
Phenanthrene	µg/l	0.01	ISO 17025	0.38
Anthracene	µg/l	0.01	ISO 17025	0.05
Fluoranthene	µg/l	0.01	ISO 17025	0.29
Pyrene	µg/l	0.01	ISO 17025	0.26
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	1.93
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.36
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.2

Boron (dissolved)	µg/l	10	ISO 17025	130
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Analytical Report Number: 24-020519

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				204209
Sample Reference				Tank Water
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				15/05/2024
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPH - Aliphatic >C5 - C6 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0
TPH - Aliphatic >C6 - C8 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0
TPH - Aliphatic >C8 - C10 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0
TPH - Aliphatic >C10 - C12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >C12 - C16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >C16 - C21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >C21 - C35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >C5 - C35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0
TPH - Aromatic >EC8 - EC10 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10

VOCs

Chloromethane	µg/l	3	ISO 17025	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0



4041



Analytical Report Number: 24-020519

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				204209
Sample Reference				Tank Water
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				15/05/2024
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0

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

Analytical Report Number : 24-020519

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
204208	Int Sludge	None Supplied	None Supplied	Brown sandy clay

Analytical Report Number : 24-020519

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices: SW, GW, PW, PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in water	Determination of total petroleum hydrocarbons in water by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
BTEX and/or Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-MS HS in water	Determination of total petroleum hydrocarbons in water by GC-MS HS	In-house method	L088	W	ISO 17025

Analytical Report Number : 24-020519

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAH) in leachate by extraction in dichloromethane followed by GC-MS	In-house method based on USEPA 8270	L102B	W	ISO 17025

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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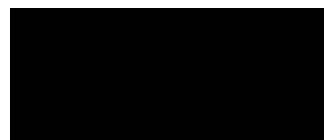
t: 01923 225404

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e: reception@i2analytical.com

Analytical Report Number : 24-024257

Project / Site name:	Victoria North	Samples received on:	10/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	10/06/2024
Your order number:	11181	Analysis completed by:	14/06/2024
Report Issue Number:	1	Report issued on:	17/06/2024
Samples Analysed:	3 soil samples		



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-024257

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	10
Total mass of sample received	kg	0.1	NONE	0.7	0.9	0.8

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.2	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	0.34	0.82
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	0.43
Acenaphthene	mg/kg	0.05	MCERTS	-	0.52	3.4
Fluorene	mg/kg	0.05	MCERTS	-	0.48	2.7
Phenanthrene	mg/kg	0.05	MCERTS	-	3.6	20
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	5.7
Fluoranthene	mg/kg	0.05	MCERTS	-	5.8	24
Pyrene	mg/kg	0.05	MCERTS	-	5.4	21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	3	9.5
Chrysene	mg/kg	0.05	MCERTS	-	3.2	11
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	3.4	12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	1.6	3.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.1	11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.7	5.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.38	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.9	7.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	34.3	139
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	18	35
Boron (water soluble)	mg/kg	0.2	MCERTS	6.4	14	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.6	6.6	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	40	330	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	530	3500	78
Lead (aqua regia extractable)	mg/kg	1	MCERTS	630	2000	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.5	2.2	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	46	160	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	820	3800	140

Analytical Report Number: 24-024257

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	-	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	-	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	-	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	11	11
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	54	39
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	430	500
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	490	550

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	-	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	-	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	-	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	< 1.0	2.5
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	7.2	25
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	26	70
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	110	430
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	140	530

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	480	-	-
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VOCs

Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0

Analytical Report Number: 24-024257

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Bromoforn	µg/kg	5	NONE	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0

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

Analytical Report Number : 24-024257

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
222923	Export 070624	None Supplied	None Supplied	Brown loam and clay with brick and vegetation
222924	Ramp	None Supplied	None Supplied	Brown loam and sand with gravel and plastic
222925	Ash Fill	None Supplied	None Supplied	Brown loam and sand with gravel

Analytical Report Number : 24-024257

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

Analytical Report Number : 24-024257

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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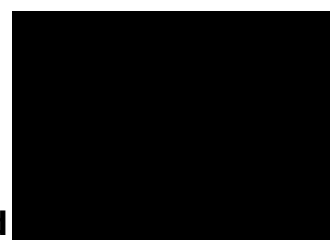
i2 Analytical Ltd.
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Analytical Report Number : 24-025309

Project / Site name:	Victoria North	Samples received on:	14/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	14/06/2024
Your order number:	11181	Analysis completed by:	20/06/2024
Report Issue Number:	1	Report issued on:	20/06/2024
Samples Analysed:	1 soil sample		

Signed



Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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



Analytical Report Number: 24-025309
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228874
Sample Reference				ES8
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	10
Total mass of sample received	kg	0.1	NONE	1.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.09
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.2
Pyrene	mg/kg	0.05	MCERTS	0.17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.09
Chrysene	mg/kg	0.05	MCERTS	0.12
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.06
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.07
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.09

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.12
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	49
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	69



Analytical Report Number: 24-025309
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228874
Sample Reference				ES8
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	32
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	32

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0
Chloroform	µg/kg	5	ISO 17025	19
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	NONE	36
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0 ##
Trichloroethene	µg/kg	5	ISO 17025	550
Dibromomethane	µg/kg	5	ISO 17025	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0



Analytical Report Number: 24-025309
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228874
Sample Reference				ES8
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0

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



Analytical Report Number : 24-025309
Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
228874	ES8	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-025309
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-025309
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Analytical Report Number : 24-025303

Project / Site name: Victoria North

Your job number: 101221

Your order number: 11181

Report Issue Number: 1

Samples Analysed: 7 soil samples

Samples received on: 14/06/2024

**Samples instructed on/
Analysis started on:** 14/06/2024

Analysis completed by: 21/06/2024

Report issued on: 21/06/2024

Signed:

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

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

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

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

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

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

Analytical Report Number: 24-025303

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				228829	228830	228831	228832	228833
Sample Reference				ES1	ES2	ES3	ES4	ES5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Stone Content	%	0.1	NONE	9.4	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.4	9.5	12	9.1	7.3
Total mass of sample received	kg	0.1	NONE	0.3	0.3	0.2	0.3	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.21	0.16	0.11	0.38	0.44
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	0.14
Acenaphthene	mg/kg	0.05	MCERTS	0.6	0.48	0.25	0.63	0.82
Fluorene	mg/kg	0.05	MCERTS	0.37	0.37	0.17	0.36	0.64
Phenanthrene	mg/kg	0.05	MCERTS	4.4	4.9	2.2	3.5	6.9
Anthracene	mg/kg	0.05	MCERTS	1	1.3	0.56	< 0.05	1.6
Fluoranthene	mg/kg	0.05	MCERTS	6.2	8	4.3	3	9.7
Pyrene	mg/kg	0.05	MCERTS	5.8	7.4	3.9	3.2	9.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3	3.6	2.1	1.3	4.9
Chrysene	mg/kg	0.05	MCERTS	3.1	3.7	2.2	1.6	4.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.1	3.4	2.6	1.3	5.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.5	2	1.1	0.65	2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3	3.4	2.3	1.4	4.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4	1.6	1.2	0.6	2.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.37	0.32	< 0.05	0.18	0.5
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.7	1.8	1.3	0.8	2.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	35.6	42.5	24.2	18.9	56.4
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	7.3	4.1	4.9	< 2.0	2.3
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	28	18	37	< 8.0	18
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	92	55	150	8.9	66
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	130	77	190	< 10	86

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.3	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	5.8	6	6.1	7.6	7.2
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	39	36	36	20	41
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	98	86	110	36	83
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	140	130	150	65	130

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Lab Sample Number				228829	228830	228831	228832	228833
Sample Reference				ES1	ES2	ES3	ES4	ES5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	18	30	30	34	27
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	23	55	57	17	72
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	260	670	760	340	610
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



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Lab Sample Number				228829	228830	228831	228832	228833
Sample Reference				ES1	ES2	ES3	ES4	ES5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
1,2-Dibromo-3-chloropropane				µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2,4-Trichlorobenzene				µg/kg	5	ISO 17025	< 5.0	< 5.0
Hexachlorobutadiene				µg/kg	5	NONE	< 5.0	< 5.0
1,2,3-Trichlorobenzene				µg/kg	5	ISO 17025	< 5.0	< 5.0

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



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Lab Sample Number				228834	228835
Sample Reference				ES6	ES7
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection
				Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	21.8
Moisture Content	%	0.01	NONE	8.5	10
Total mass of sample received	kg	0.1	NONE	0.2	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.28	0.11
Acenaphthylene	mg/kg	0.05	MCERTS	0.19	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.44	0.2
Fluorene	mg/kg	0.05	MCERTS	0.36	0.15
Phenanthrene	mg/kg	0.05	MCERTS	4.5	1.7
Anthracene	mg/kg	0.05	MCERTS	0.97	0.4
Fluoranthene	mg/kg	0.05	MCERTS	7.1	2.9
Pyrene	mg/kg	0.05	MCERTS	7.1	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.2	1.5
Chrysene	mg/kg	0.05	MCERTS	3.4	1.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.6	1.5
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4	0.75
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.6	0.69
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.36	0.17
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	0.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	39.5	16.3
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	2.8	2
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	30	14
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	89	54
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	120	70

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	5.6	3.8
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	48	21
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	120	61
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	170	85



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Lab Sample Number				228834	228835
Sample Reference				ES6	ES7
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection
				Accreditation Status	

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	25	24
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	35	24
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0 ##
Trichloroethene	µg/kg	5	ISO 17025	500	380
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0



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Lab Sample Number				228834	228835
Sample Reference				ES6	ES7
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0

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



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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
228829	ES1	None Supplied	None Supplied	Brown sandy loam with gravel and stones
228830	ES2	None Supplied	None Supplied	Brown clay and sand with gravel
228831	ES3	None Supplied	None Supplied	Brown sand with gravel
228832	ES4	None Supplied	None Supplied	Brown sand with gravel
228833	ES5	None Supplied	None Supplied	Brown sandy loam with gravel
228834	ES6	None Supplied	None Supplied	Brown sandy loam with gravel
228835	ES7	None Supplied	None Supplied	Brown sand with gravel and stones



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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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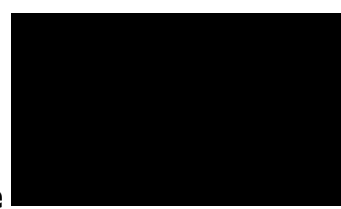
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Analytical Report Number : 24-025376

Project / Site name:	Victoria North	Samples received on:	14/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	14/06/2024
Your order number:	11181	Analysis completed by:	20/06/2024
Report Issue Number:	1	Report issued on:	21/06/2024
Samples Analysed:	13 soil samples		

Signe



Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229327	229328	229329	229330	229331
Sample Reference				NT02/A	NT02/B	NT02/C	NT02/D	NT02/E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	13	14	12	8.7
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.5	< 0.05	< 0.05	< 0.05	0.52
Acenaphthylene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	< 0.05	0.1
Acenaphthene	mg/kg	0.05	MCERTS	7.2	< 0.05	< 0.05	0.06	1.4
Fluorene	mg/kg	0.05	MCERTS	4.3	< 0.05	< 0.05	< 0.05	0.93
Phenanthrene	mg/kg	0.05	MCERTS	37	< 0.05	0.17	0.61	7.7
Anthracene	mg/kg	0.05	MCERTS	8.3	< 0.05	< 0.05	0.16	2.4
Fluoranthene	mg/kg	0.05	MCERTS	46	< 0.05	0.34	1.6	12
Pyrene	mg/kg	0.05	MCERTS	40	< 0.05	0.34	1.4	11
Benzo(a)anthracene	mg/kg	0.05	MCERTS	19	< 0.05	0.2	0.78	5
Chrysene	mg/kg	0.05	MCERTS	23	< 0.05	0.27	0.88	4.8
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	24	< 0.05	0.27	1.1	6.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	7.3	< 0.05	0.12	0.34	2.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	19	< 0.05	0.16	0.84	5.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	8.7	< 0.05	0.14	0.45	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	3.2	< 0.05	< 0.05	0.14	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	9.8	< 0.05	0.17	0.53	3.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	260	< 0.80	2.19	8.83	65.4
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	6.6	21	18	11
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.5	0.5	0.3	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	0.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	22	21	19	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	79	12	22	52	45
Lead (aqua regia extractable)	mg/kg	1	MCERTS	220	15	73	330	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	18	13	18	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	51	75	280	230

Analytical Report Number: 24-025376

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				229327	229328	229329	229330	229331
Sample Reference				NT02/A	NT02/B	NT02/C	NT02/D	NT02/E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	4.1	< 2.0	< 2.0	< 2.0	4.1
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	17
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	20	< 8.0	< 8.0	16	160
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	24	< 10	< 10	16	180

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	1.7	< 1.0	< 1.0	< 1.0	1.1
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	26	< 2.0	< 2.0	< 2.0	8.5
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	110	< 10	< 10	< 10	53
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	150	< 10	< 10	14	310
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	280	< 10	< 10	14	380

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	19	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	47	87	200	32	71
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229327	229328	229329	229330	229331
Sample Reference				NT02/A	NT02/B	NT02/C	NT02/D	NT02/E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229332	229333	229334	229335	229336
Sample Reference				NT02/F	NT02/G	NT02/H	NT02/I	NT02/J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	14	11	14	11
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.43	0.35	0.76	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	0.07	0.06	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.87	1.4	1.2	< 0.05	0.05
Fluorene	mg/kg	0.05	MCERTS	0.85	0.91	0.73	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.8	13	7.1	0.16	0.55
Anthracene	mg/kg	0.05	MCERTS	1.3	3.3	1.7	< 0.05	0.11
Fluoranthene	mg/kg	0.05	MCERTS	4.8	20	10	0.2	0.65
Pyrene	mg/kg	0.05	MCERTS	4.3	17	9	0.24	0.58
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.6	8.9	3.9	< 0.05	0.29
Chrysene	mg/kg	0.05	MCERTS	1.6	9.4	3.8	0.06	0.35
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.8	11	4.7	< 0.05	0.37
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.65	3.5	1.3	< 0.05	0.12
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.5	9.4	3.6	< 0.05	0.31
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.74	4.5	1.9	< 0.05	0.16
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.24	1.4	0.53	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.84	5	2.1	< 0.05	0.19

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	25.4	110	52.6	< 0.80	3.74
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	20	16	5.6	7.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.6	0.6	1.5	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.1	1.3	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	22	22	27	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	29	88	45	11	17
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	230	110	15	36
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	25	21	20	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	330	270	63	65

Analytical Report Number: 24-025376

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				229332	229333	229334	229335	229336
Sample Reference				NT02/F	NT02/G	NT02/H	NT02/I	NT02/J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	8.9	3.2	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	36	23	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	130	65	30	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	180	91	30	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	12	8.1	4.5	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	57	62	37	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	99	100	76	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	170	170	120	< 10	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	17	30	18	13	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	310	330	150	89	49
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



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Lab Sample Number				229332	229333	229334	229335	229336
Sample Reference				NT02/F	NT02/G	NT02/H	NT02/I	NT02/J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number: 24-025376
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number				229337	229338	229339
Sample Reference				NT02/K	NT02/L	NT02/M
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13	12
Total mass of sample received	kg	0.1	NONE	0.7	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.06	0.11	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.1	0.3	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.14	0.17	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.3	1.6	0.16
Anthracene	mg/kg	0.05	MCERTS	0.37	0.35	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.5	1.7	0.23
Pyrene	mg/kg	0.05	MCERTS	1.6	1.5	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.81	0.69	0.09
Chrysene	mg/kg	0.05	MCERTS	0.87	0.91	0.13
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.86	0.86	0.15
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.3	0.37	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.85	0.74	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.36	0.36	0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.45	0.42	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	9.68	10.2	1.12
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	9.7	8.2
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.4	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	23	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	41	25	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	94	280	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	20	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	74	95	53

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Lab Sample Number				229337	229338	229339
Sample Reference				NT02/K	NT02/L	NT02/M
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	4.6	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	13	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	33	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	51	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	27	17
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	77	340	83
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0



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Lab Sample Number				229337	229338	229339
Sample Reference				NT02/K	NT02/L	NT02/M
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

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



Analytical Report Number : 24-025376
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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
229327	NT02/A	None Supplied	None Supplied	Brown clay and sand with gravel
229328	NT02/B	None Supplied	None Supplied	Brown clay and sand
229329	NT02/C	None Supplied	None Supplied	Brown sand with gravel
229330	NT02/D	None Supplied	None Supplied	Brown sand with gravel
229331	NT02/E	None Supplied	None Supplied	Brown sand with gravel and brick
229332	NT02/F	None Supplied	None Supplied	Brown clay and gravel
229333	NT02/G	None Supplied	None Supplied	Brown clay and loam with gravel
229334	NT02/H	None Supplied	None Supplied	Brown clay and loam with gravel
229335	NT02/I	None Supplied	None Supplied	Brown clay and loam with gravel
229336	NT02/J	None Supplied	None Supplied	Brown clay and loam with gravel
229337	NT02/K	None Supplied	None Supplied	Brown clay and loam with gravel
229338	NT02/L	None Supplied	None Supplied	Brown clay and loam with gravel
229339	NT02/M	None Supplied	None Supplied	Brown clay and loam with gravel

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Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-025376
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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Analytical Report Number : 24-026674

Project / Site name:	Victoria North	Samples received on:	21/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	21/06/2024
Your order number:	11181	Analysis completed by:	27/06/2024
Report Issue Number:	1	Report issued on:	28/06/2024
Samples Analysed:	5 soil samples		

Signed

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

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

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

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

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

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

Analytical Report Number: 24-026674

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				235805	235806	235807	235808	235809
Sample Reference				SC Tank B	SC Tank N	SC Tank E	SC Tank S	SC Tank W
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	15.4
Moisture Content	%	0.01	NONE	10	15	5.8	5.3	24
Total mass of sample received	kg	0.1	NONE	1.2	1	1.2	1	0.6

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.22	0.24	0.18	1.2	1.4
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.11	0.14	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.48	0.14	0.31	2.5	5.4
Fluorene	mg/kg	0.05	MCERTS	0.35	0.19	0.28	2.1	4.3
Phenanthrene	mg/kg	0.05	MCERTS	3	1.8	2.3	11	28
Anthracene	mg/kg	0.05	MCERTS	0.73	0.5	0.65	3.1	8
Fluoranthene	mg/kg	0.05	MCERTS	3.3	2.3	2.8	15	28
Pyrene	mg/kg	0.05	MCERTS	3.2	2.4	2.9	13	24
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	1.2	1.3	5.6	9.9
Chrysene	mg/kg	0.05	MCERTS	1.6	1.3	1.7	6	10
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.7	1.6	1.7	6.2	11
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.82	0.54	0.82	2.8	4.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.6	1.4	1.6	5.7	9.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.75	0.64	0.71	2.6	4.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.15	0.15	< 0.05	0.52	0.85
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.92	0.77	0.87	2.8	4.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	20.3	15.3	18.3	79.7	153
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	1.5	1.3	1.2
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	19	< 2.0	23	19	44
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	75	< 8.0	89	78	220
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	210	38	210	360	1000
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	310	38	330	460	1300

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.6	5.9
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	13	< 2.0	8.4	22	90
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	71	< 10	40	110	380
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	140	35	64	300	630
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	220	35	110	440	1100



4041



Environmental Science

Analytical Report Number: 24-026674

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				235805	235806	235807	235808	235809
Sample Reference				SC Tank B	SC Tank N	SC Tank E	SC Tank S	SC Tank W
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number : 24-026674

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
235805	SC Tank B	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation
235806	SC Tank N	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation
235807	SC Tank E	None Supplied	None Supplied	Brown clay and loam with clinker and gravel
235808	SC Tank S	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation
235809	SC Tank W	None Supplied	None Supplied	Brown loam and sand with tar and brick

Analytical Report Number : 24-026674

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

Analytical Report Number : 24-026674

Project / Site name: Victoria North

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

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

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SC Tank B	N/A	S	235805	a	BTEX and/or Volatile organic compounds in soil	L073B	a
SC Tank B	N/A	S	235805	a	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
SC Tank B	N/A	S	235805	a	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	a
SC Tank E	N/A	S	235807	a	BTEX and/or Volatile organic compounds in soil	L073B	a
SC Tank E	N/A	S	235807	a	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
SC Tank E	N/A	S	235807	a	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	a
SC Tank N	N/A	S	235806	a	BTEX and/or Volatile organic compounds in soil	L073B	a
SC Tank N	N/A	S	235806	a	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
SC Tank N	N/A	S	235806	a	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	a
SC Tank S	N/A	S	235808	a	BTEX and/or Volatile organic compounds in soil	L073B	a
SC Tank S	N/A	S	235808	a	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
SC Tank S	N/A	S	235808	a	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	a
SC Tank W	N/A	S	235809	a	BTEX and/or Volatile organic compounds in soil	L073B	a
SC Tank W	N/A	S	235809	a	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
SC Tank W	N/A	S	235809	a	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	a

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Analytical Report Number : 24-029493

Project / Site name:	Victoria North	Samples received on:	08.07.2024
Your job number:	101221	Samples instructed on/ Analysis started on:	08.07.2024
Your order number:	11181	Analysis completed by:	12.07.2024
Report Issue Number:	1	Report issued on:	12.07.2024
Samples Analysed:	7 soil samples		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-029493
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				250690	250691	250692	250693	250694
Sample Reference				NT02 TCE 1	NT02 TCE 2	small tank N	small tank E	small tank S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				04/07/2024	04/07/2024	04/07/2024	04/07/2024	04/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	36.5	40.5	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.3	6	22	14	11
Total mass of sample received	kg	0.1	NONE	1.3	1.4	1.4	1.4	1.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.59	7.3	< 0.05	< 0.05	0.87
Acenaphthylene	mg/kg	0.05	MCERTS	0.23	2.7	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.5	7.9	< 0.05	< 0.05	0.59
Fluorene	mg/kg	0.05	MCERTS	1	7.4	< 0.05	< 0.05	0.57
Phenanthrene	mg/kg	0.05	MCERTS	12	54	0.16	< 0.05	2.7
Anthracene	mg/kg	0.05	MCERTS	3.5	12	< 0.05	< 0.05	0.77
Fluoranthene	mg/kg	0.05	MCERTS	23	48	0.2	< 0.05	2.5
Pyrene	mg/kg	0.05	MCERTS	20	45	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	14	19	< 0.05	< 0.05	1.6
Chrysene	mg/kg	0.05	MCERTS	13	20	0.12	< 0.05	1.6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	17	18	< 0.05	< 0.05	1.7
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	8.5	6.8	< 0.05	< 0.05	0.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	17	17	< 0.05	< 0.05	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	9.2	7.3	0.09	< 0.05	0.72
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.6	2.2	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	10	9.1	< 0.05	< 0.05	0.81

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	153	284	< 0.80	< 0.80	16.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	13	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	0.9	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.8	1.3	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	17	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	68	65	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	1400	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	19	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	330	210	-	-	-

Analytical Report Number: 24-029493

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number	250690	250691	250692	250693	250694
Sample Reference	NT02 TCE 1	NT02 TCE 2	small tank N	small tank E	small tank S
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	04/07/2024	04/07/2024	04/07/2024	04/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.3
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	2.1	< 2.0	< 2.0	9.3
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	28	8.8	11	< 8.0	19
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	270	93	44	< 8.0	51
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	300	100	55	< 10	84

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	5.5	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	8.6	38	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	93	160	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	480	250	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	580	450	< 10	< 10	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	51	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-

Analytical Report Number: 24-029493
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				250690	250691	250692	250693	250694
Sample Reference				NT02 TCE 1	NT02 TCE 2	small tank N	small tank E	small tank S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				04/07/2024	04/07/2024	04/07/2024	04/07/2024	04/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-

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

Analytical Report Number: 24-029493

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				250695	250696
Sample Reference				small tank W	small tank B
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				04/07/2024	04/07/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	19
Total mass of sample received	kg	0.1	NONE	1.4	1.4

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.48	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.51	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.38	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.39	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.45	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.52	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.32	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.3	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.5	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-

Analytical Report Number: 24-029493

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number	250695	250696
Sample Reference	small tank W	small tank B
Sample Number	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied
Date Sampled	04/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection
	Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	4.2	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	19	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	25	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	48	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-
Chloroethane	µg/kg	5	NONE	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	ISO 17025	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-

Analytical Report Number: 24-029493

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				250695	250696
Sample Reference				small tank W	small tank B
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				04/07/2024	04/07/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-
Bromoform	µg/kg	5	NONE	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	NONE	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
Butylbenzene	µg/kg	5	NONE	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-

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

Analytical Report Number : 24-029493
Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
250690	NT02 TCE 1	None Supplied	None Supplied	Brown loam with gravel and stones
250691	NT02 TCE 2	None Supplied	None Supplied	Brown loam with gravel and stones
250692	small tank N	None Supplied	None Supplied	Brown clay and loam with gravel
250693	small tank E	None Supplied	None Supplied	Brown clay and loam with gravel
250694	small tank S	None Supplied	None Supplied	Brown clay and sand with gravel
250695	small tank W	None Supplied	None Supplied	Brown clay and sand with gravel
250696	small tank B	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-029493

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-030450

Project / Site name:	Victoria North	Samples received on:	12/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	12/07/2024
Your order number:	11181	Analysis completed by:	18/07/2024
Report Issue Number:	1	Report issued on:	18/07/2024
Samples Analysed:	5 soil samples		

Signed:



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

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

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

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

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

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

Analytical Report Number: 24-030450
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				255327	255328	255329	255330	255331
Sample Reference				NT02 TCE 3	NT02 TCE 4	NT02 TCE 5	NT02 TCE 6	NT02 TCE 7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2024	11/07/2024	11/07/2024	11/07/2024	11/07/2024
Time Taken				b	b	b	b	b
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	11	16	17
Total mass of sample received	kg	0.1	NONE	0.2	0.3	0.2	0.3	0.2

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	9.5	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	9.1	20	7.1	44	130
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	72
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-030450
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				255327	255328	255329	255330	255331
Sample Reference				NT02 TCE 3	NT02 TCE 4	NT02 TCE 5	NT02 TCE 6	NT02 TCE 7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2024	11/07/2024	11/07/2024	11/07/2024	11/07/2024
Time Taken				b	b	b	b	b
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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



Analytical Report Number : 24-030450
Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
255327	NT02 TCE 3	None Supplied	None Supplied	Brown clay
255328	NT02 TCE 4	None Supplied	None Supplied	Brown clay and sand with gravel
255329	NT02 TCE 5	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
255330	NT02 TCE 6	None Supplied	None Supplied	Brown clay and sand with gravel
255331	NT02 TCE 7	None Supplied	None Supplied	Brown clay and sand with gravel



Analytical Report Number : 24-030450
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Sample Deviation Report



Analytical Report Number : 24-030450
Project / Site name: Victoria North

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

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

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
NT02 TCE 3	N/A	S	255327	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 4	N/A	S	255328	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 5	N/A	S	255329	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 6	N/A	S	255330	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 7	N/A	S	255331	b	BTEX and/or Volatile organic compounds in soil	L073B	b

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Analytical Report Number : 24-031424

Project / Site name: Victoria North

Samples received on: 18/07/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 18/07/2024

Your order number: 11181

Analysis completed by: 24/07/2024

Report Issue Number: 1

Report issued on: 24/07/2024

Samples Analysed: 4 soil samples

Signed:

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

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

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

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

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

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



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	15	9.3	15
Total mass of sample received	kg	0.1	NONE	1	1	0.8	0.9

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	10	13	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	0.73	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.09	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	1.5	-
Fluorene	mg/kg	0.05	MCERTS	-	-	1.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	7.8	-
Anthracene	mg/kg	0.05	MCERTS	-	-	2.2	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	10	-
Pyrene	mg/kg	0.05	MCERTS	-	-	9.6	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	3.8	-
Chrysene	mg/kg	0.05	MCERTS	-	-	3.9	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	4.4	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	1.8	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	3.9	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	1.9	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.39	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	2.1	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	55.6	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	19	10	-
Boron (water soluble)	mg/kg	0.2	MCERTS	22	7	0.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	6.8	11	0.5	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	130	130	19	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1900	3800	44	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	690	770	76	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.3	3.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	140	170	15	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	4100	4300	140	-

Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	MCERTS	-	-	< 0.020	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	MCERTS	-	-	< 0.020	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	MCERTS	-	-	< 0.050	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	-	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	-	4.9	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	27	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	200	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	-	230	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	MCERTS	-	-	< 0.050	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	-	2	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	-	14	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	53	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	170	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	-	240	-

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	2200	1100	-	-
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VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0 ^{##}
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	170
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	< 5.0



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0

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



Analytical Report Number : 24-031424
Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
260854	xport 160724 HA	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260855	xport 170724 HA	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260856	6F2 crush	None Supplied	None Supplied	Brown sand with gravel and brick
260857	TLE TP1	None Supplied	None Supplied	Brown clay

Analytical Report Number : 24-031424
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics



Analytical Report Number : 24-031424
Project / Site name: Victoria North

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - underscore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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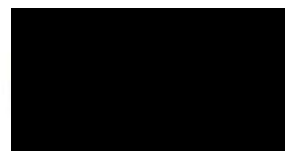
t: 01923 225404

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Analytical Report Number : 24-031413

Project / Site name:	Victoria North	Samples received on:	18/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	18/07/2024
Your order number:	11181	Analysis completed by:	29/07/2024
Report Issue Number:	1	Report issued on:	30/07/2024
Samples Analysed:	9 soil samples		



Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260789	260790	260791	260792	260793
Sample Reference				ash fill 1	ash fill 2	ash fill 3	ash fill 4	ash fill 5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	24.5	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	11	13	14	14
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.7	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.88	0.83	0.78	0.44	0.68
Acenaphthylene	mg/kg	0.05	MCERTS	0.23	0.33	0.17	0.18	0.15
Acenaphthene	mg/kg	0.05	MCERTS	3.6	2.7	1.5	1.7	0.55
Fluorene	mg/kg	0.05	MCERTS	2.8	2.4	1.3	1.3	0.75
Phenanthrene	mg/kg	0.05	MCERTS	18	14	7.7	9.9	3.7
Anthracene	mg/kg	0.05	MCERTS	5.4	4.9	2.3	3.1	1.1
Fluoranthene	mg/kg	0.05	MCERTS	25	27	13	16	6.2
Pyrene	mg/kg	0.05	MCERTS	23	24	12	15	5.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	11	12	5.3	7.2	2.8
Chrysene	mg/kg	0.05	MCERTS	11	12	6.1	8	3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	12	14	7.4	10	3.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	4.9	6.5	2.9	3.7	1.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	11	13	6.8	8.9	3.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	6.1	7.5	3.1	4.3	1.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.2	1.6	0.78	1.1	0.43
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.6	7.8	3.8	4.9	2.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	143	150	74	95.6	38
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	14	17	15	17
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	0.7	2	1.2	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.6	2.1	1.2	1.2	1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	32	32	31	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	150	130	130	110	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	400	420	430	260	420
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	0.9	0.7	0.6	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	28	25	21	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2	1	1.3	< 1.0	1.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	740	700	520	440	770



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260789	260790	260791	260792	260793
Sample Reference				ash fill 1	ash fill 2	ash fill 3	ash fill 4	ash fill 5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	2	1.2	< 1.0	1.1	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	17	27	18	8.9	14
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	79	100	65	45	53
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	510	650	430	370	330
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	610	780	510	430	390

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	6.2	2.8	3.3	3.8	6
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	28	27	15	17	9.7
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	130	200	78	86	50
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	420	790	300	340	260
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	590	1000	400	450	320

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0 **	< 5.0 **	< 5.0 **	< 5.0 **	< 5.0 **
Trichloroethene	µg/kg	5	ISO 17025	8.6	< 5.0	37	11	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260789	260790	260791	260792	260793
Sample Reference				ash fill 1	ash fill 2	ash fill 3	ash fill 4	ash fill 5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number: 24-031413
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260794	260795	260796	260797
Sample Reference				NT02 Tank N	NT02 Tank E	NT02 Tank S	NT02 Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	31.2
Moisture Content	%	0.01	NONE	12	11	10	12
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.9	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.07	0.62	0.11	0.96
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.12
Acenaphthene	mg/kg	0.05	MCERTS	0.08	1.7	1.4	3
Fluorene	mg/kg	0.05	MCERTS	0.05	1.5	1.4	2.9
Phenanthrene	mg/kg	0.05	MCERTS	0.25	9.9	12	17
Anthracene	mg/kg	0.05	MCERTS	0.06	3.1	3.7	5.6
Fluoranthene	mg/kg	0.05	MCERTS	0.34	14	17	19
Pyrene	mg/kg	0.05	MCERTS	0.35	13	14	17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.17	6	6.4	8.2
Chrysene	mg/kg	0.05	MCERTS	0.17	7	6.1	9.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.2	7.6	7.3	8.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.08	2.4	3	4.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.21	6.6	6.3	8.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.09	3.8	2.9	4.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.93	0.64	0.87
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.14	4.3	3.2	4.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	2.25	82.9	84.9	115
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.2	14	4.3	12
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9	0.2	0.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8	24	8.4	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	65	13	75
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	210	18	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.4	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9	24	8.2	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	32	330	33	340



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260794	260795	260796	260797
Sample Reference				NT02 Tank N	NT02 Tank E	NT02 Tank S	NT02 Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	15	2.7	17
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	58	< 8.0	55
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	420	9	380
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	490	12	460

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	3.5	5.6	1.6
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	16	20	13
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	100	85	85
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	540	130	370
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	650	240	470

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0 **	< 5.0 **	< 5.0 **	< 5.0 **
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	24	22	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260794	260795	260796	260797
Sample Reference				NT02 Tank N	NT02 Tank E	NT02 Tank S	NT02 Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number : 24-031413

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
260789	ash fill 1	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260790	ash fill 2	None Supplied	None Supplied	Brown loam and clay with gravel
260791	ash fill 3	None Supplied	None Supplied	Brown loam and clay with gravel and stones
260792	ash fill 4	None Supplied	None Supplied	Brown loam and clay with gravel
260793	ash fill 5	None Supplied	None Supplied	Brown loam and clay with gravel
260794	NT02 Tank N	None Supplied	None Supplied	Brown sandy loam with gravel
260795	NT02 Tank E	None Supplied	None Supplied	Brown sand with gravel
260796	NT02 Tank S	None Supplied	None Supplied	Brown sand with gravel
260797	NT02 Tank Base	None Supplied	None Supplied	Brown clay and sand with gravel and stones

Analytical Report Number : 24-031413

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-031413

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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Analytical Report Number : 24-032291

Project / Site name: Victoria North

Samples received on: 23/07/2024

Your job number: 101221

**Samples instructed on/
Analysis started on:** 23/07/2024

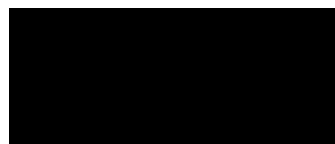
Your order number: 11181

Analysis completed by: 30/07/2024

Report Issue Number: 1

Report issued on: 30/07/2024

Samples Analysed: 8 soil samples



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265788	265789	265790	265791	265792
Sample Reference				SP1	SP2	SP3	SP4	SP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	17	18	18	18
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.1	1.1	1.2

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	8.2	8	8.1	4.9	10
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.4	0.26	0.26	0.3	0.27
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	0.09	0.07	0.07	0.29
Acenaphthene	mg/kg	0.05	MCERTS	0.84	0.64	0.42	0.46	0.47
Fluorene	mg/kg	0.05	MCERTS	0.62	0.45	0.35	0.31	0.58
Phenanthrene	mg/kg	0.05	MCERTS	4.4	4.1	2.8	3.1	4
Anthracene	mg/kg	0.05	MCERTS	1.1	0.98	0.7	0.66	0.99
Fluoranthene	mg/kg	0.05	MCERTS	5.9	5.7	4.9	4.3	5.8
Pyrene	mg/kg	0.05	MCERTS	5.3	5.3	4.6	4	5.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.4	2.6	2.2	1.9	2.6
Chrysene	mg/kg	0.05	MCERTS	2.4	2.6	2.3	2	2.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.7	3.3	2.8	2.5	3.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.5	1.2	0.96	0.95	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.6	2.8	2.4	2.2	3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2	1.2	1.2	1.2	1.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.28	0.3	0.3	0.25	0.41
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.4	1.3	1.4	1.3	1.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	33	32.7	27.7	25.5	34.4
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	17	21	16	17
Boron (water soluble)	mg/kg	0.2	MCERTS	12	8.9	8.1	1.9	2.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	10	10	61	6.4	7.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	100	120	84	63	130
Copper (aqua regia extractable)	mg/kg	1	MCERTS	3400	1600	1500	780	3800
Lead (aqua regia extractable)	mg/kg	1	MCERTS	690	570	5100	420	870
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.1	3.7	3.4	2.5	8.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	230	110	100	68	170
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	3500	2400	2100	1200	4400



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Environmental Science

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265788	265789	265790	265791	265792
Sample Reference				SP1	SP2	SP3	SP4	SP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.2
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	20	20	12	9.6	15
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	90	83	64	40	93
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	700	580	410	250	680
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	810	680	490	300	790

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	12	12	4.4	4.2	10
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	66	68	29	20	49
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	320	300	140	85	310
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	400	380	170	110	370

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265788	265789	265790	265791	265792
Sample Reference				SP1	SP2	SP3	SP4	SP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	10	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	11	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	9.5	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265793	265794	265795
Sample Reference				SP6	TCE TP2	TCE TP3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	12	10
Total mass of sample received	kg	0.1	NONE	1.2	0.9	1.2

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	8.9	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.37	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.09	-	-
Acenaphthene	mg/kg	0.05	MCERTS	0.55	-	-
Fluorene	mg/kg	0.05	MCERTS	0.52	-	-
Phenanthrene	mg/kg	0.05	MCERTS	4.3	-	-
Anthracene	mg/kg	0.05	MCERTS	1.4	-	-
Fluoranthene	mg/kg	0.05	MCERTS	6.7	-	-
Pyrene	mg/kg	0.05	MCERTS	6.4	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.9	-	-
Chrysene	mg/kg	0.05	MCERTS	3.1	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.7	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.5	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.3	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.7	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.4	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	38.8	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	7.5	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	5.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	100	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	2200	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	780	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.6	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	120	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	3800	-	-

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265793	265794	265795
Sample Reference				SP6	TCE TP2	TCE TP3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	-	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	-	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	-	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	-	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	15	-	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	85	-	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	550	-	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	650	-	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	-	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	-	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	8.1	-	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	50	-	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	290	-	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	350	-	-

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	13
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	120
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265793	265794	265795
Sample Reference				SP6	TCE TP2	TCE TP3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Ethylbenzene	µg/kg	5	MCERTS	7.5	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	5.3	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

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



Analytical Report Number : 24-032291

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
265788	SP1	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation
265789	SP2	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation
265790	SP3	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265791	SP4	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265792	SP5	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265793	SP6	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265794	TCE TP2	None Supplied	None Supplied	Brown clay and sand with gravel
265795	TCE TP3	None Supplied	None Supplied	Brown loam and sand with gravel

Analytical Report Number : 24-032291

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-032291

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-033073

Project / Site name:	Victoria North	Samples received on:	26/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	26/07/2024
Your order number:	11181	Analysis completed by:	01/08/2024
Report Issue Number:	1	Report issued on:	01/08/2024
Samples Analysed:	4 soil samples		

Signed:

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

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

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

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

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

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

Analytical Report Number: 24-033073
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				270074	270075	270076	270077
Sample Reference				export 220724	6F2 crush 1	6F2 crush 2	6F2 crush 3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				22/07/2024	24/07/2024	24/07/2024	24/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	43.4	35.8	38.1
Moisture Content	%	0.01	NONE	7.3	5.4	6.3	6.2
Total mass of sample received	kg	0.1	NONE	1.2	1.1	1.1	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	-	KSZ	KSZ	KSZ
Actinolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	< 0.001	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	Loose Fibres	-
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General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	2.8	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	0.32	0.19	0.22
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.33	0.44	0.44
Fluorene	mg/kg	0.05	MCERTS	-	0.26	0.33	0.35
Phenanthrene	mg/kg	0.05	MCERTS	-	2.1	2.2	2.5
Anthracene	mg/kg	0.05	MCERTS	-	0.63	0.6	0.67
Fluoranthene	mg/kg	0.05	MCERTS	-	3.2	2.9	3
Pyrene	mg/kg	0.05	MCERTS	-	2.9	2.7	2.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	1.3	1.2	1.3
Chrysene	mg/kg	0.05	MCERTS	-	1.5	1.2	1.3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	1.4	1.4	1.6
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	0.78	0.57	0.54
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1.4	1.3	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.7	0.77	0.75
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.17	< 0.05	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.78	0.82	0.89

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	17.6	16.6	17.7
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Analytical Report Number: 24-033073
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				270074	270075	270076	270077
Sample Reference				export 220724	6F2 crush 1	6F2 crush 2	6F2 crush 3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				22/07/2024	24/07/2024	24/07/2024	24/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	8.8	8.6	9.7
Boron (water soluble)	mg/kg	0.2	MCERTS	4.6	1.2	0.8	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.5	0.5	0.5
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	18	19	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	200	56	45	46
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	95	75	88
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	14	14	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	200	120	140

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	1.2	1.2
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	24	26	16
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	65	90	51
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	280	470	250
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	-	370	590	310

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	-	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	-	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	1.6	2.7	1.6
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	15	10	11
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	60	64	54
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	240	250	210
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	-	320	330	270

TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	110	-	-	-
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VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0

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



Analytical Report Number: 24-033073
Project / Site name: Victoria North
Your Order No: 11181

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
270076	6F2 crush 2		169	Loose Fibres	Chrysotile	< 0.001	< 0.001

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

Analytical Report Number : 24-033073

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
270074	export 220724	None Supplied	None Supplied	Brown loam and clay with gravel and plastic
270075	6F2 crush 1	None Supplied	None Supplied	Brown loam with plastic and stones
270076	6F2 crush 2	None Supplied	None Supplied	Brown loam with vegetation and stones
270077	6F2 crush 3	None Supplied	None Supplied	Brown loam with vegetation and stones

Analytical Report Number : 24-033073

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

Analytical Report Number : 24-033073

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-034565

Project / Site name:	Victoria North	Samples received on:	05/08/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	05/08/2024
Your order number:	11181	Analysis completed by:	14/08/2024
Report Issue Number:	1	Report issued on:	14/08/2024
Samples Analysed:	12 soil samples - 1 water sample		


Signed:

Charlotte Andrew
Key Account Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	277948	277949	277950	277951	277952
Sample Reference	ash fill 5	ash fill 6	ash fill 7	ash fill 8	6F2 crush 4
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	01/08/2024	01/08/2024	02/08/2024	02/08/2024	26/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	100
Moisture Content	%	0.01	NONE	14	12	13	13	4.3
Total mass of sample received	kg	0.1	NONE	0.8	0.9	1	0.9	0.9
Whole Sample Crushed	N/A	N/A	NONE	-	-	-	-	-

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	-	-	-	-	KWB
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.4	0.28	0.52	0.11	0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.1	< 0.05	0.18
Acenaphthene	mg/kg	0.05	MCERTS	0.79	0.48	1.9	0.27	0.39
Fluorene	mg/kg	0.05	MCERTS	0.62	0.49	1.4	0.21	0.37
Phenanthrene	mg/kg	0.05	MCERTS	5.2	4.2	11	1.7	4.4
Anthracene	mg/kg	0.05	MCERTS	1.8	1.6	4.4	0.5	1.1
Fluoranthene	mg/kg	0.05	MCERTS	8.8	7.8	19	2.5	9.4
Pyrene	mg/kg	0.05	MCERTS	8.2	7.9	17	2.4	7.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.3	3.6	7.5	1	3.7
Chrysene	mg/kg	0.05	MCERTS	3.5	3.9	7.9	1.1	3.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	4.1	4.7	8	1.2	4.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.9	1.7	4.2	0.72	1.9
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.5	4.3	7.8	1.2	3.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.8	2.4	4.2	0.55	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.37	0.43	0.86	0.12	0.47
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.1	2.8	4.7	0.66	1.9

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	46.2	46.5	101	14.2	44.1
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Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	277948	277949	277950	277951	277952
Sample Reference	ash fill 5	ash fill 6	ash fill 7	ash fill 8	6F2 crush 4
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	01/08/2024	01/08/2024	02/08/2024	02/08/2024	26/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26	19	26	10	13
Boron (water soluble)	mg/kg	0.2	MCERTS	7.9	8.5	8	0.6	3.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9	1.2	0.5	0.5
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	35	42	27	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	190	200	290	70	59
Lead (aqua regia extractable)	mg/kg	1	MCERTS	460	1200	580	180	130
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.4	0.6	0.8	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	29	33	16	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	320	350	500	140	210

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	MCERTS	43	55	28	33	9.8
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	MCERTS	110	170	99	110	36
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	MCERTS	280	980	550	350	260
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_ID_AL	mg/kg	10	NONE	430	1200	680	490	310

TPHCWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	MCERTS	3	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	MCERTS	35	28	28	12	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	MCERTS	140	180	200	64	44
TPHCWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	MCERTS	330	680	520	250	150
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_ID_AR	mg/kg	10	NONE	500	890	750	320	200

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-

Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				277948	277949	277950	277951	277952
Sample Reference				ash fill 5	ash fill 6	ash fill 7	ash fill 8	6F2 crush 4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/08/2024	01/08/2024	02/08/2024	02/08/2024	26/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	-

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

Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	277953	277954	277955	277956	277957
Sample Reference	6F2 crush 5	6F2 crush 6	6F2 crush 7	6F2 pre-crush 1	6F2 pre-crush 2
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	26/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	49.3	59.9	36.4	87.4	100
Moisture Content	%	0.01	NONE	4.2	3.9	5.4	0.93	2
Total mass of sample received	kg	0.1	NONE	0.8	0.8	1	2	2
Whole Sample Crushed	N/A	N/A	NONE	-	-	-	Crushed	Crushed

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB	MWI	MWI	MWI	MWI
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	-	Detected	Not-detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Not-detected	Detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	0.002	0.004	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibrous Debris	Loose Fibres	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.12	0.31	0.24	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.36	1.4	0.54	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.26	1.2	0.42	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.2	8.6	3.6	0.18	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.6	2.5	0.95	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	3.3	11	5	0.23	< 0.05
Pyrene	mg/kg	0.05	MCERTS	3.1	9.3	4.6	0.21	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.3	4	1.9	0.07	< 0.05
Chrysene	mg/kg	0.05	MCERTS	1.4	3.9	2.1	0.1	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.4	4.2	2.3	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.82	1.9	1	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.4	4	2.1	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.65	1.7	1	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.13	0.32	0.2	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.77	2	1.2	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	17.8	56.2	27.3	< 0.80	< 0.80
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Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	277953	277954	277955	277956	277957
Sample Reference	6F2 crush 5	6F2 crush 6	6F2 crush 7	6F2 pre-crush 1	6F2 pre-crush 2
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	26/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	10	9.7	8.4	4.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	1.7	2.1	0.4	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.5	0.7	0.3	0.6
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	27	23	42	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40	47	78	36	7.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	62	61	110	8.3	8.1
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	15	16	31	7.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	100	280	31	29

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	1.4	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	MCERTS	13	18	91	19	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	MCERTS	50	79	200	140	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	MCERTS	250	330	420	860	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_ID_AL	mg/kg	10	NONE	310	420	710	1000	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	3	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	MCERTS	6.5	16	38	7.3	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	MCERTS	42	87	110	39	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	MCERTS	200	230	290	130	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_ID_AR	mg/kg	10	NONE	240	340	440	170	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-

Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				277953	277954	277955	277956	277957
Sample Reference				6F2 crush 5	6F2 crush 6	6F2 crush 7	6F2 pre-crush 1	6F2 pre-crush 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

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

Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	277958	277959
Sample Reference	6F2 pre-crush 3	arch stock
Sample Number	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied
Date Sampled	26/07/2024	02/08/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Stone Content	%	0.1	NONE	100	< 0.1
Moisture Content	%	0.01	NONE	1.6	3.2
Total mass of sample received	kg	0.1	NONE	2	1
Whole Sample Crushed	N/A	N/A	NONE	Crushed	-

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	MWI	-
Actinolite detected	Type	N/A	ISO 17025	-	-
Amosite detected	Type	N/A	ISO 17025	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	7.4
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	1.1
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	1.6
Fluorene	mg/kg	0.05	MCERTS	< 0.05	2.6
Phenanthrene	mg/kg	0.05	MCERTS	0.06	18
Anthracene	mg/kg	0.05	MCERTS	< 0.05	3.5
Fluoranthene	mg/kg	0.05	MCERTS	0.08	16
Pyrene	mg/kg	0.05	MCERTS	0.08	16
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	7.3
Chrysene	mg/kg	0.05	MCERTS	< 0.05	6.9
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	7.4
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	8.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	4.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.1
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	4.9

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	110
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Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	277958	277959
Sample Reference	6F2 pre-crush 3	arch stock
Sample Number	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied
Date Sampled	26/07/2024	02/08/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	30
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	38	300
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	630
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	38
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	78	400

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_ID_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_ID_AL}	mg/kg	2	MCERTS	< 2.0	2.9
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	9.3
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	59
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_ID_AL}	mg/kg	10	NONE	< 10	71

TPHCWG - Aromatic >EC5 - EC7 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_ID_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_ID_AR}	mg/kg	1	MCERTS	< 1.0	5.9
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_ID_AR}	mg/kg	2	MCERTS	< 2.0	22
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	99
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	140
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_ID_AR}	mg/kg	10	NONE	< 10	260

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-
Chloroethane	µg/kg	5	NONE	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	ISO 17025	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-

Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				277958	277959
Sample Reference				6F2 pre-crush 3	arch stock
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				26/07/2024	02/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Trichloroethene	µg/kg	5	ISO 17025	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-
Bromoform	µg/kg	5	NONE	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	NONE	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
Butylbenzene	µg/kg	5	NONE	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-

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



Analytical Report Number: 24-034565
Project / Site name: Victoria North
Your Order No: 11181

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

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

Quantitative Analysis

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

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

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

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
277954	6F2 crush 6		164	Loose Fibrous Debris	Amosite	0.002	0.002
277955	6F2 crush 7		142	Loose Fibres	Chrysotile	0.004	0.004

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

Analytical Report Number: 24-034565
Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number	277960			
Sample Reference	NT04 drain			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	02/08/2024			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status	

General Inorganics

Chloride	mg/l	0.15	ISO 17025	26
Fluoride	mg/l	0.05	ISO 17025	0.28
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	60
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	5.64
Bicarbonate as HCO ₃	mgHCO ₃ /l	10	NONE	100
Carbonate as CaCO ₃	mgCaCO ₃ /l	10	NONE	83

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	96
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.081

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

Analytical Report Number : 24-034565

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
277948	ash fill 5	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
277949	ash fill 6	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
277950	ash fill 7	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
277951	ash fill 8	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
277952	6F2 crush 4	None Supplied	None Supplied	Brown loam and gravel with concrete and stones
277953	6F2 crush 5	None Supplied	None Supplied	Brown loam and gravel with concrete and stones
277954	6F2 crush 6	None Supplied	None Supplied	Brown loam and gravel with concrete and stones
277955	6F2 crush 7	None Supplied	None Supplied	Brown loam and gravel with concrete and stones
277956	6F2 pre-crush 1	None Supplied	None Supplied	Light grey rubble with concrete and stones ^{tb}
277957	6F2 pre-crush 2	None Supplied	None Supplied	Light grey rubble with concrete and stones ^{tb}
277958	6F2 pre-crush 3	None Supplied	None Supplied	Light grey rubble with concrete and stones ^{tb}
277959	arch stock	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-034565

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Whole Sample Crushed	Either: Client specific preparation instructions - sample(s) crushed whole prior to analysis; OR Sample unsuitable for standard preparation and therefore crushed whole prior to analysis	In house method, applicable to dry samples only	L019B	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Dissolved Organic Carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Bicarbonate as HCO ₃ in water	Determination of Bicarbonate by discrete analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Carbonate in water	Determination of Carbonate using 0.1M HCl by discrete analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

Analytical Report Number : 24-034565
Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in water	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW,PW, GW,FSE,LL	L082B	W	ISO 17025
Ammonia as NH ₃ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices: SW, GW, PW, PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Fluoride in water	Determination of fluoride in water by 1:1 ratio with a buffer solution followed by Ion Selective Electrode. Accredited matrices: SW PW, GW	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

*b - Unaccredited sample matrix.

Analytical Report Number : 24-034565

Project / Site name: Victoria North

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

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

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
ash fill 7	N/A	S	277950	b	BTEX and/or Volatile organic compounds in soil	L073B	b
ash fill 7	N/A	S	277950	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
ash fill 7	N/A	S	277950	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
6F2 crush 4	N/A	S	277952	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 crush 4	N/A	S	277952	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 crush 4	N/A	S	277952	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
6F2 crush 5	N/A	S	277953	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 crush 5	N/A	S	277953	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 crush 5	N/A	S	277953	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
6F2 crush 6	N/A	S	277954	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 crush 6	N/A	S	277954	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 crush 6	N/A	S	277954	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
6F2 pre-crush 1	N/A	S	277956	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 pre-crush 1	N/A	S	277956	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 pre-crush 1	N/A	S	277956	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
6F2 pre-crush 2	N/A	S	277957	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 pre-crush 2	N/A	S	277957	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 pre-crush 2	N/A	S	277957	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
6F2 pre-crush 3	N/A	S	277958	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 pre-crush 3	N/A	S	277958	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 pre-crush 3	N/A	S	277958	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
NT04 drain	N/A	W	277960	c	Ammonia as NH3 in water	L082B	c
ash fill 6	N/A	S	277949	b	BTEX and/or Volatile organic compounds in soil	L073B	b
ash fill 6	N/A	S	277949	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
ash fill 6	N/A	S	277949	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b
ash fill 8	N/A	S	277951	b	BTEX and/or Volatile organic compounds in soil	L073B	b
ash fill 8	N/A	S	277951	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
ash fill 8	N/A	S	277951	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088	b



4041

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Analytical Report Number : 24-039165

Project / Site name:	Victoria North	Samples received on:	29/08/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	29/08/2024
Your order number:	11181	Analysis completed by:	06/09/2024
Report Issue Number:	1	Report issued on:	06/09/2024
Samples Analysed:	1 bulk sample		

Signed

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

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

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

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

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

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

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



4041



Analytical Report Number: 24-039165

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				301148
Sample Reference				ACM 1
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				30/03/2024
Time Taken				None Supplied
Analytical Parameter (Bulk Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Asbestos

Asbestos in bulks	Type	N/A	ISO 17025	Detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS
Actinolite detected	Type	N/A	ISO 17025	Not-detected
Amosite detected	Type	N/A	ISO 17025	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	Detected
Crocidolite detected	Type	N/A	ISO 17025	Not-detected
Tremolite detected	Type	N/A	ISO 17025	Not-detected

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Asbestos Cement
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U/S = Unsuitable Sample I/S = Insufficient Sample



4041



Analytical Report Number : 24-039165

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	W	ISO 17025

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

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

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

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

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-039166

Project / Site name:	Victoria North	Samples received on:	29/08/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	29/08/2024
Your order number:	11181	Analysis completed by:	06/09/2024
Report Issue Number:	1	Report issued on:	06/09/2024
Samples Analysed:	2 soil samples		

Signed:



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

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

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

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

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

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

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

Analytical Report Number: 24-039166
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				301149	301150
Sample Reference				under plinth	export 270824
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	27.8	< 0.1
Moisture Content	%	0.01	NONE	15	19
Total mass of sample received	kg	0.1	NONE	0.8	0.8

Asbestos

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

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	-	14
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.8	-
Acenaphthylene	mg/kg	0.05	MCERTS	1.2	-
Acenaphthene	mg/kg	0.05	MCERTS	3.4	-
Fluorene	mg/kg	0.05	MCERTS	2.4	-
Phenanthrene	mg/kg	0.05	MCERTS	28	-
Anthracene	mg/kg	0.05	MCERTS	6.5	-
Fluoranthene	mg/kg	0.05	MCERTS	41	-
Pyrene	mg/kg	0.05	MCERTS	40	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	19	-
Chrysene	mg/kg	0.05	MCERTS	17	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	19	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	8.5	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	20	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	8.7	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	10	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	230	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	62
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	5.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	1.6
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	40
Copper (aqua regia extractable)	mg/kg	1	MCERTS	96	430
Lead (aqua regia extractable)	mg/kg	1	MCERTS	440	340
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	52
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	450	400

Analytical Report Number: 24-039166

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				301149	301150
Sample Reference				under plinth	export 270824
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	4.5	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	16	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	51	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	71	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	14	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	100	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	160	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	280	-

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	-	490
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VOCs

Chloromethane	µg/kg	5	MCERTS	< 5.0	-
Chloroethane	µg/kg	5	MCERTS	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	-
Carbontetrachloride	µg/kg	5	NONE	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	45	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	-

Analytical Report Number: 24-039166

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				301149	301150
Sample Reference				under plinth	export 270824
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	-
Styrene	µg/kg	5	ISO 17025	< 5.0	-
Bromoform	µg/kg	5	NONE	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	-
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-
Bromobenzene	µg/kg	5	NONE	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
Butylbenzene	µg/kg	5	NONE	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-

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

Analytical Report Number : 24-039166

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
301149	under plinth	None Supplied	None Supplied	Brown loam and clay with vegetation and stones
301150	export 270824	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-039166

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS

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

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

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

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

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

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

The result for sum should be interpreted with caution



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Analytical Report Number : 24-039871

Project / Site name:	Victoria North	Samples received on:	03/09/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	03/09/2024
Your order number:	11181	Analysis completed by:	10/09/2024
Report Issue Number:	1	Report issued on:	11/09/2024
Samples Analysed:	4 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-039871
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				304934	304935	304936	304937
Sample Reference				export 290824	export 300824	loc 1	loc 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/08/2024	30/08/2024	30/08/2024	30/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	6.7	6.5	12	13
Total mass of sample received	kg	0.1	NONE	0.6	0.5	0.6	0.5

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	1.3	1.1	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	8.7	5.6	4.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.6	0.9	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	14	24	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	32	17	9.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	29	52	18	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	30	18	16	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.1	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	43	68	60	29



4041



Environmental Science

Analytical Report Number: 24-039871

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				304934	304935	304936	304937
Sample Reference				export 290824	export 300824	loc 1	loc 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/08/2024	30/08/2024	30/08/2024	30/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Petroleum Hydrocarbons

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

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

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	19	24	-	-
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VOCs

Chloromethane	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	120	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-039871

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				304934	304935	304936	304937
Sample Reference				export 290824	export 300824	loc 1	loc 2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/08/2024	30/08/2024	30/08/2024	30/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Chlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Bromoforn	µg/kg	5	NONE	-	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	< 5.0

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

Analytical Report Number : 24-039871

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
304934	export 290824	None Supplied	None Supplied	Brown clay and sand with gravel
304935	export 300824	None Supplied	None Supplied	Brown clay and sand with gravel
304936	loc 1	None Supplied	None Supplied	Brown clay and sand with gravel
304937	loc 2	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-039871

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS

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

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

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

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

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

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

The result for sum should be interpreted with caution

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Analytical Report Number : 24-038721

Project / Site name:	Victoria North	Samples received on:	27/08/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	27/08/2024
Your order number:	11181	Analysis completed by:	04/09/2024
Report Issue Number:	1	Report issued on:	04/09/2024
Samples Analysed:	13 soil samples		



Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299048	299049	299050	299051	299052
Sample Reference				ash fill 9	ash fill 10	ash fill 11	6F2 Crush 8	6F2 Crush 9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	33.6	< 0.1	-	-
Moisture Content	%	0.01	NONE	8.2	9.2	11	-	-
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.8	-	-
Whole Sample Crushed	N/A	N/A	NONE	-	-	-	-	Crushed

Asbestos

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	2.6	2.2	1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.28	0.16	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	3.8	3.3	1.9	-	-
Fluorene	mg/kg	0.05	MCERTS	3.3	2.6	1.9	-	-
Phenanthrene	mg/kg	0.05	MCERTS	22	16	12	-	-
Anthracene	mg/kg	0.05	MCERTS	7	5.1	3.9	-	-
Fluoranthene	mg/kg	0.05	MCERTS	29	20	19	-	-
Pyrene	mg/kg	0.05	MCERTS	27	19	19	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	14	9.5	9.4	-	-
Chrysene	mg/kg	0.05	MCERTS	13	9.1	8.6	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	16	11	10	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	5.1	4.2	3.5	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	13	9.4	9.2	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	6.7	4.9	5.4	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.4	1.2	1.2	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	7.5	5.7	5.6	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	170	123	112	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	16	21	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	2.6	1.6	2.2	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	1.1	1.2	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	41	26	35	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	160	150	150	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	450	420	390	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.5	0.5	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36	26	33	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	430	350	420	-	-



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Environmental Science

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299048	299049	299050	299051	299052
Sample Reference				ash fill 9	ash fill 10	ash fill 11	6F2 Crush 8	6F2 Crush 9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	2.6	< 2.0	4.2	-	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	21	15	17	-	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	180	230	130	-	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	200	250	150	-	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	-	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	-	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	2.5	< 1.0	< 1.0	-	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	12	7.7	6.4	-	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	72	55	47	-	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	270	290	170	-	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	350	360	220	-	-

VOCs

Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Trichloroethene	µg/kg	5	ISO 17025	30	44	48	-	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-



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Environmental Science

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299048	299049	299050	299051	299052
Sample Reference				ash fill 9	ash fill 10	ash fill 11	6F2 Crush 8	6F2 Crush 9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	-	-

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

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299053	299054	299055	299056	299057
Sample Reference				6F2 Crush 10	6F2 Crush 11	6F2 Crush 12	6F2 Crush 13	6F2 Crush 14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	-	91.9	99	-	-
Moisture Content	%	0.01	NONE	-	1.7	1.4	-	-
Total mass of sample received	kg	0.1	NONE	-	1.3	1.3	-	-
Whole Sample Crushed	N/A	N/A	NONE	Crushed	Crushed	Crushed	Crushed	Crushed

Asbestos

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	0.07	0.19	-	-
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	0.26	-	-
Pyrene	mg/kg	0.05	MCERTS	-	0.09	0.28	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05	< 0.05	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05	< 0.05	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	< 0.80	< 0.80	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	4.4	11	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	1.1	1.3	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	0.5	< 0.2	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	10	11	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	9.5	8.7	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	9.9	5.9	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	7	6.4	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	1.2	< 1.0	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	28	40	-	-



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Environmental Science

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299053	299054	299055	299056	299057
Sample Reference				6F2 Crush 10	6F2 Crush 11	6F2 Crush 12	6F2 Crush 13	6F2 Crush 14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

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

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

VOCs

Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-



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Environmental Science

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299053	299054	299055	299056	299057
Sample Reference				6F2 Crush 10	6F2 Crush 11	6F2 Crush 12	6F2 Crush 13	6F2 Crush 14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

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

Analytical Report Number: 24-038721
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				299058	299059	299060
Sample Reference				6F2 Crush 15	6F2 Crush 16	6F2 Crush 17
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status

Stone Content	%	0.1	NONE	-	-	-
Moisture Content	%	0.01	NONE	-	-	-
Total mass of sample received	kg	0.1	NONE	-	-	-
Whole Sample Crushed	N/A	N/A	NONE	Crushed	Crushed	Crushed

Asbestos

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-

Analytical Report Number: 24-038721

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				299058	299059	299060
Sample Reference				6F2 Crush 15	6F2 Crush 16	6F2 Crush 17
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Petroleum Hydrocarbons

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

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

VOCs

Chloromethane	µg/kg	5	MCERTS	-	-	-
Chloroethane	µg/kg	5	MCERTS	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-
Carbontetrachloride	µg/kg	5	NONE	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-

Analytical Report Number: 24-038721
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number				299058	299059	299060
Sample Reference				6F2 Crush 15	6F2 Crush 16	6F2 Crush 17
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2024	23/08/2024	23/08/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Ethylbenzene	µg/kg	5	MCERTS	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-

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

Analytical Report Number : 24-038721

Project / Site name: Victoria North

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
299048	ash fill 9	None Supplied	None Supplied	Brown sand with gravel
299049	ash fill 10	None Supplied	None Supplied	Brown loam and sand with gravel and stones
299050	ash fill 11	None Supplied	None Supplied	Brown sand with gravel
299054	6F2 Crush 11	None Supplied	None Supplied	Non Soil. ^{nb}
299055	6F2 Crush 12	None Supplied	None Supplied	Non Soil. ^{nb}

Analytical Report Number : 24-038721

Project / Site name: Victoria North

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Whole Sample Crushed	Either: Client specific preparation instructions - sample(s) crushed whole prior to analysis; OR Sample unsuitable for standard preparation and therefore crushed whole prior to analysis	In house method, applicable to dry samples only	L019B	D	NONE
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS

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

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

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

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

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

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

The result for sum should be interpreted with caution

*b - Unaccredited sample matrix.

Analytical Report Number : 24-038721

Project / Site name: Victoria North

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

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

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
6F2 Crush 11	N/A	S	299054	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 Crush 11	N/A	S	299054	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 Crush 11	N/A	S	299054	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	b
6F2 Crush 12	N/A	S	299055	b	BTEX and/or Volatile organic compounds in soil	L073B	b
6F2 Crush 12	N/A	S	299055	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
6F2 Crush 12	N/A	S	299055	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	b



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix Ba

Geotechnical analyses representing materials reused on site

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

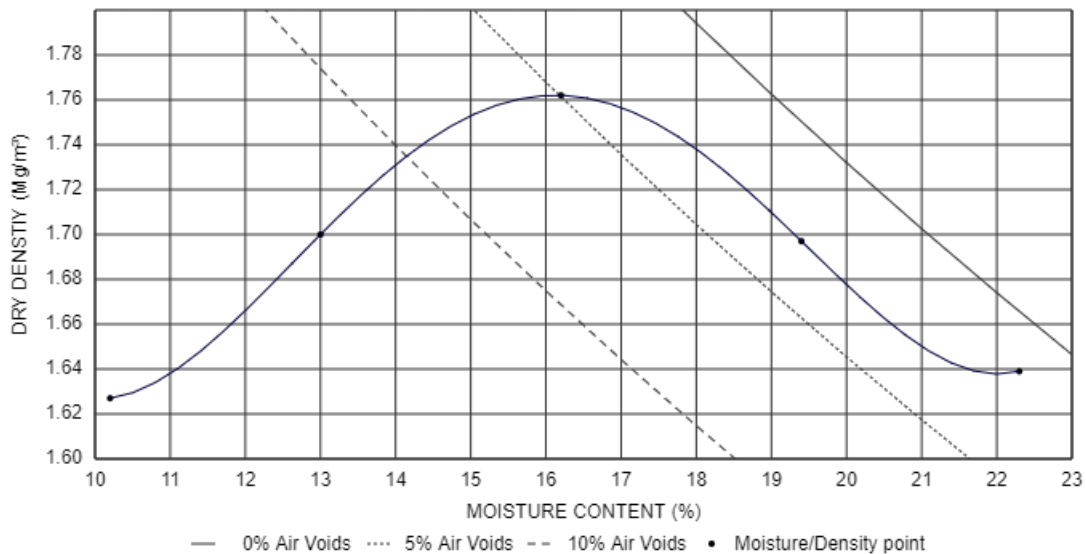
Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 299203.2.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	470459	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/1	SITE:	Central Manchester
DATE SAMPLED:	06/06/2024	SUPPLIER:	Ex-Site, N/S
SAMPLED BY:	Unknown	MATERIAL:	Black Ash with Crushed Brick, Occasional Cobbles Silty Clay
DATE RECEIVED:	10/06/2024	LOCATION:	Ash Fill
DATE COMPLETED:	10/07/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	CA, OB, SP	COMPACTION SAMPLE:	Separate samples
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	None	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Overcast		
LOCATION AND ORIENTATION:	Ash Fill		

RESULT Test Location: CTS Doncaster Soils

MAXIMUM DRY DENSITY: 1.76 Mg/m³
OPTIMUM MOISTURE CONTENT: 16 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE: 36 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE: 25 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS: 2.65 Mg/m³

MOISTURE CONTENT / DRY DENSITY RELATIONSHIP



Remarks:
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Report Format: OMC2.5/TP06/Rep Issue 1 Rev 2 09/23

Bootham Lane Industrial Estate,
 Dunscroft,
 Doncaster,
 South Yorkshire DN7 4JU

0343 227 8545
 enquiries@constructiontesting.co.uk
 www.constructiontesting.co.uk
 END OF REPORT

For and on behalf of CTS
 Alan D'Rozario - Project Manager

Approved Signatory
 Report date 10-Jul-24

Construction Testing Solutions Ltd.
 Registered in England No. 05998333

Report version 1



4161

Laboratory Report	DNR/139545	Contract Sample No	DN6381/3	 CTS Group Bootham Lane Industrial Estate Dunscroft Doncaster DN7 4JU Tel: (01302) 352652 Email: enquiries@constructiontesting.co.uk Web: www.constructiontesting.co.uk
Report Date	19 July 2024	Clients Reference	DN6381/3	
Provectus Remediation Ltd Regent House Bath Avenue Wolverhampton West Midlands WV1 4EG Central Manchester		Material Description	Granular Fill	
		Source	Not Stated	
		Supplier	Not Stated	
		Date Sampled	27/06/2024	
		Date Received	27/06/2024	
		Date Completed	19/07/2024	
		Sample Location	Ramp	

Consolidated Drained Shearbox Test

Please find enclosed test certificate (PSL24/5095) supplied by our approved Sub-contract Laboratory, PSL

Authorised Signatory


 R Jarvis – Deputy Administration Manager



LABORATORY REPORT



Contract Number: PSL24/5095

Report Date: 19 July 2024
Client's Reference: CTS029243
Client Name: CTS Group - Doncaster
Bootham Lane Industrial Estate
Dunscroft
Doncaster
South Yorkshire
DN7 4JU

For the attention of: Jack Betts

Contract Title: Central Manchester

Date Received: 17/7/2024
Date Commenced: 17/7/2024
Date Completed: 19/7/2024

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Managing Director)

R Berriman
(Associate Director)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

S Eyre
(Senior Technician)

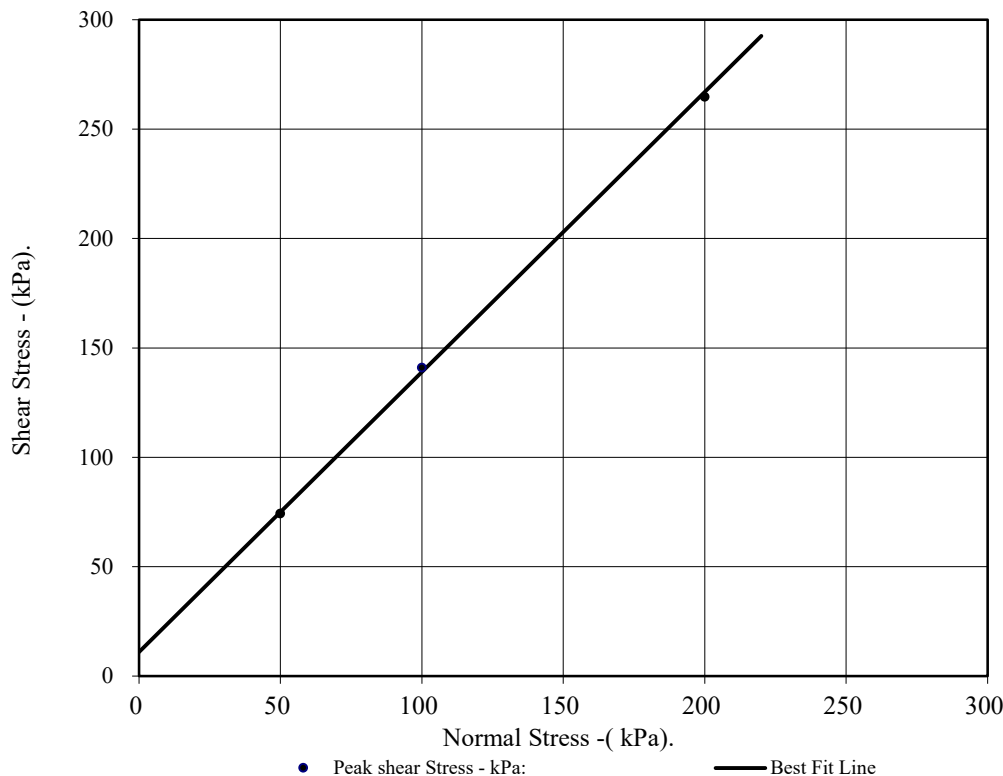

A Fry
(Section Manager)

5 – 7 Hexthorpe Road,
Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098

CONSOLIDATED DRAINED SHEARBOX TEST

BS1377:Part 7:1990 Clause 5 SHW Clause 636 Paragraph 2

Sample Number:	DN6381/3	Source:	NS
Location:	Ramp	Supplier:	NS
Sample Conditions:	Dry	Sample Type	B
Particle Density - Mg/m3:	2.65	Assumed	Date Sampled: 27/06/2024
Sample Preparation:	Material tested passing 20mm sieve Recompacted to 92% of MDD @ OMC		
Sample Description:	Dark brown gravelly SAND (Granular Fill)		
STAGE	1	2	3
Initial Conditions			
Height - mm:	150	150	150
Length - mm:	300	300	300
Moisture Content - %:	17	17	17
Bulk Density - Mg/m3:	1.87	1.87	1.87
Dry Density - Mg/m3:	1.60	1.60	1.60
Voids Ratio:	0.659	0.659	0.659
Normal Pressure- kPa	50	100	200
Consolidation Stage			
Consolidated Height - mm:	146.72	143.68	140.48
Shearing Stage			
Rate of Strain (mm/min)	1.0	1.0	1.0
Displacement at peak shear stress (mm)	49.50	50.00	50.00
Peak shear Stress - kPa:	74	141	265
Final Consolidated Conditions			
Moisture Content - %:	17	17	17
Bulk Density - Mg/m3:	1.92	2.00	2.08
Dry Density - Mg/m3:	1.64	1.70	1.78
Peak			
Angle of Shearing Resistance:(θ)	52		
Effective Cohesion - kPa:	11		



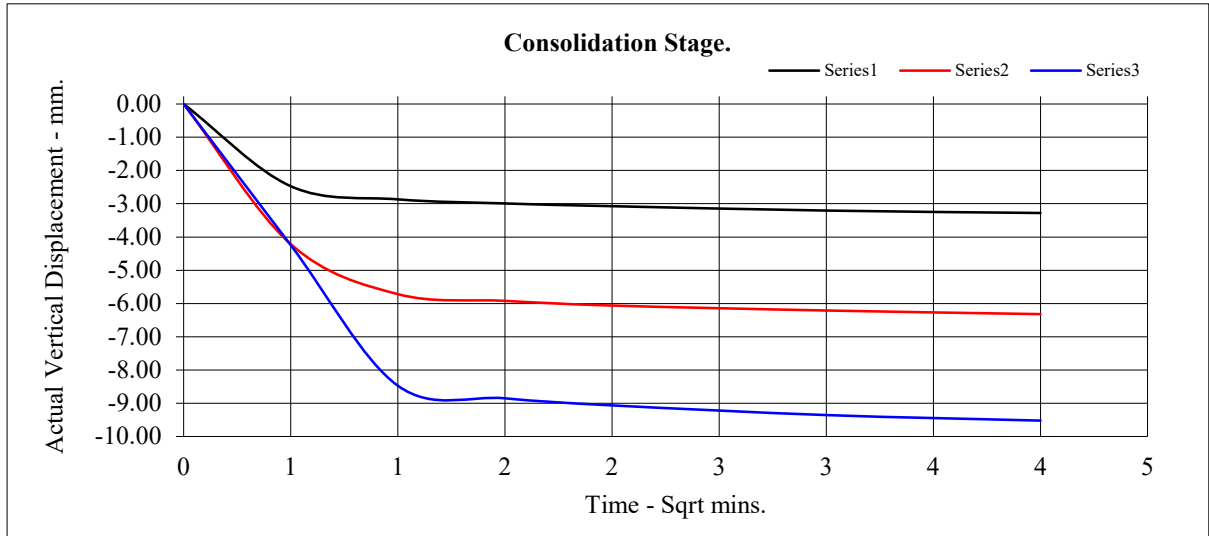
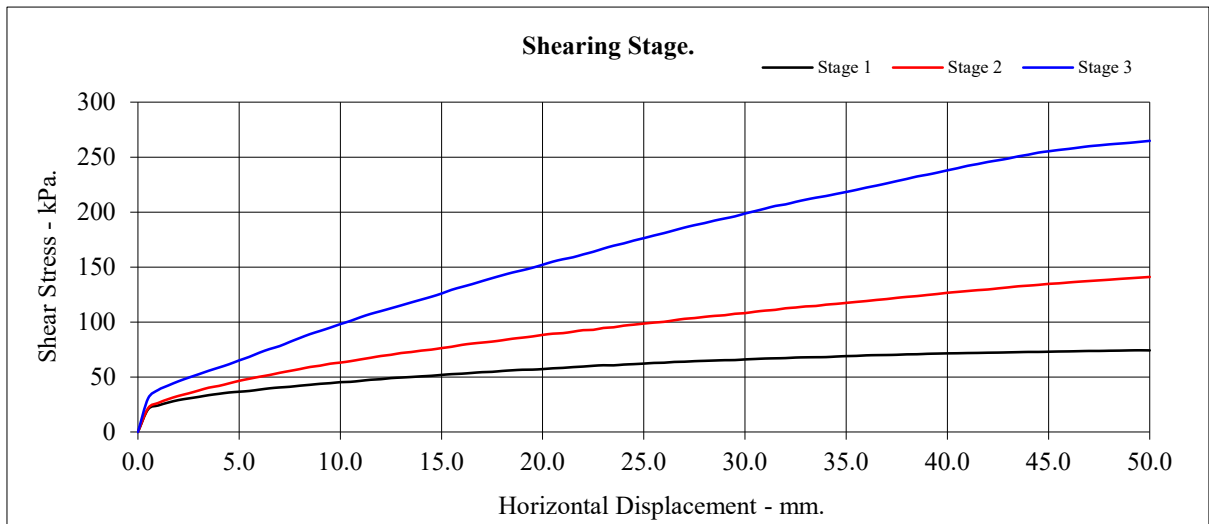
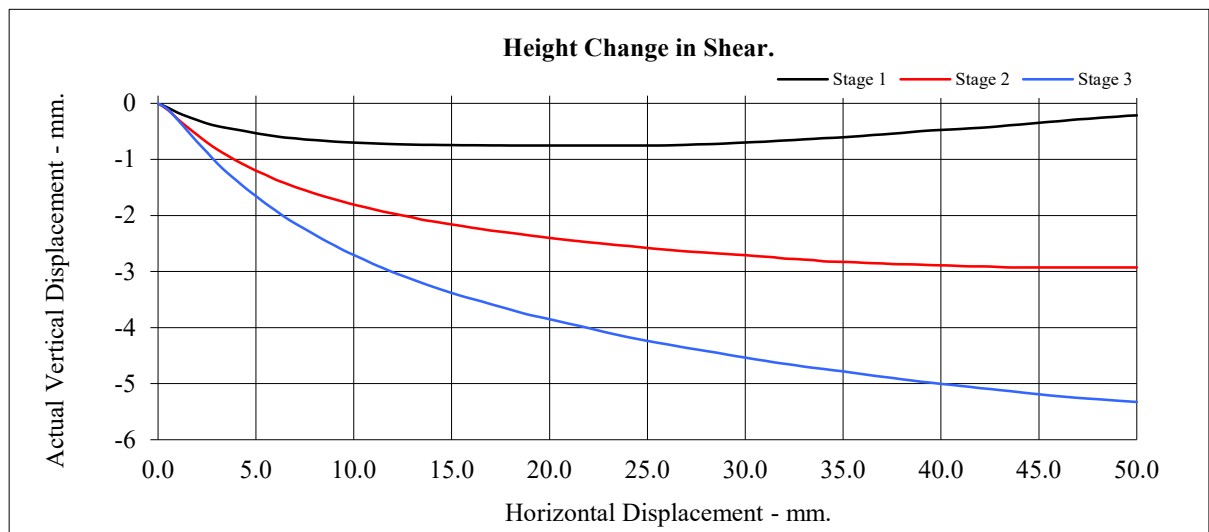
Central Manchester

Contract No:
PSL24/5095
Client Ref:
28621

CONSOLIDATED DRAINED SHEARBOX TEST

BS1377:Part 7:1990 Clause 5 SHW Clause 636 Paragraph 2

Sample Number:	DN6381/3	Source:	NS
Location:	Ramp	Supplier:	NS



Central Manchester

Contract No:
PSL24/5095
Client Ref:
28621

Laboratory Report	DNR/139546	Contract Sample No	DN6381/4	 CTS Group Bootham Lane Industrial Estate Dunscroft Doncaster DN7 4JU Tel: (01302) 352652 Email: enquiries@constructiontesting.co.uk Web: www.constructiontesting.co.uk
Report Date	19 July 2024	Clients Reference	DN6381/4	
Provectus Remediation Ltd Regent House Bath Avenue Wolverhampton West Midlands WV1 4EG Central Manchester		Material Description	Ash Fill	
		Source	Not Stated	
		Supplier	Not Stated	
		Date Sampled	27/06/2024	
		Date Received	27/06/2024	
		Date Completed	19/07/2024	
		Sample Location	Ash Fill	

Consolidated Drained Shearbox Test

Please find enclosed test certificate (PSL24/5095) supplied by our approved Sub-contract Laboratory, PSL

Authorised Signatory



R Jarvis – Deputy Administration Manager



LABORATORY REPORT



Contract Number: PSL24/5095

Report Date: 19 July 2024
Client's Reference: CTS029243
Client Name: CTS Group - Doncaster
Bootham Lane Industrial Estate
Dunscroft
Doncaster
South Yorkshire
DN7 4JU

For the attention of: Jack Betts

Contract Title: Central Manchester

Date Received: 17/7/2024
Date Commenced: 17/7/2024
Date Completed: 19/7/2024

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Managing Director)

R Berriman
(Associate Director)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

S Eyre
(Senior Technician)

A Fry
(Section Manager)

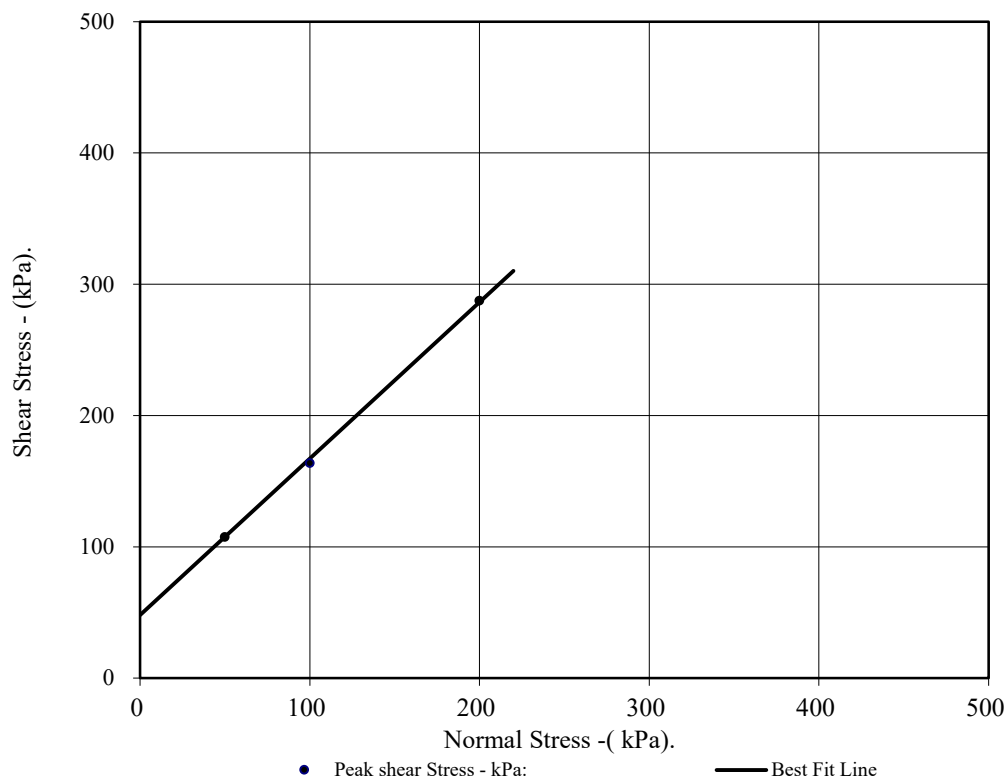
5 – 7 Hexthorpe Road,
Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098

Page 1 of

CONSOLIDATED DRAINED SHEARBOX TEST

BS1377:Part 7:1990 Clause 5 SHW Clause 636 Paragraph 2

Sample Number:	DN6381/4		Source:	NS	
Location:	Ash Fill		Supplier:	NS	
Sample Conditions:	Dry		Sample Type	B	
Particle Density - Mg/m3:	2.65	Assumed	Date Sampled:	27/06/2024	
Sample Preparation:	Material tested passing 20mm sieve Recompacted to 92% of MDD @ OMC				
Sample Description:	Dark grey gravelly SAND (Ash fill)				
STAGE			1	2	3
Initial Conditions					
Height - mm:			150	150	150
Length - mm:			300	300	300
Moisture Content - %:			16	16	16
Bulk Density - Mg/m3:			1.89	1.89	1.89
Dry Density - Mg/m3:			1.63	1.63	1.63
Voids Ratio:			0.625	0.625	0.625
Normal Pressure- kPa			50	100	200
Consolidation Stage					
Consolidated Height - mm:			148.55	146.17	143.73
Shearing Stage					
Rate of Strain (mm/min)			1.0	1.0	1.0
Displacement at peak shear stress (mm)			27.50	49.50	50.00
Peak shear Stress - kPa:			108	164	287
Final Consolidated Conditions					
Moisture Content - %:			16	16	16
Bulk Density - Mg/m3:			1.86	1.95	2.02
Dry Density - Mg/m3:			1.61	1.69	1.74
Peak					
Angle of Shearing Resistance:(θ)			50		
Effective Cohesion - kPa:			48		



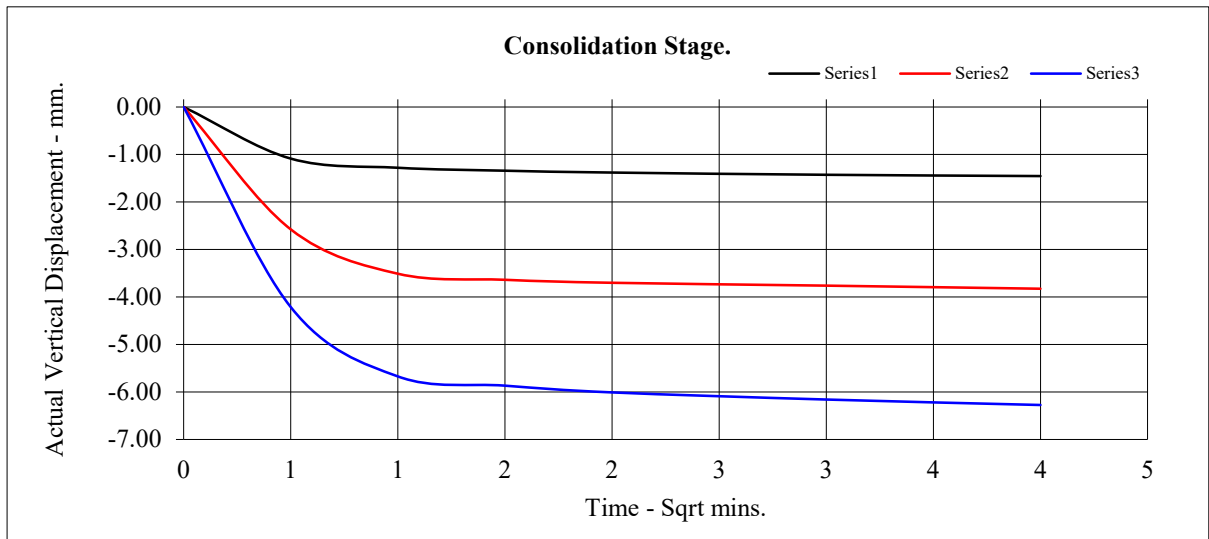
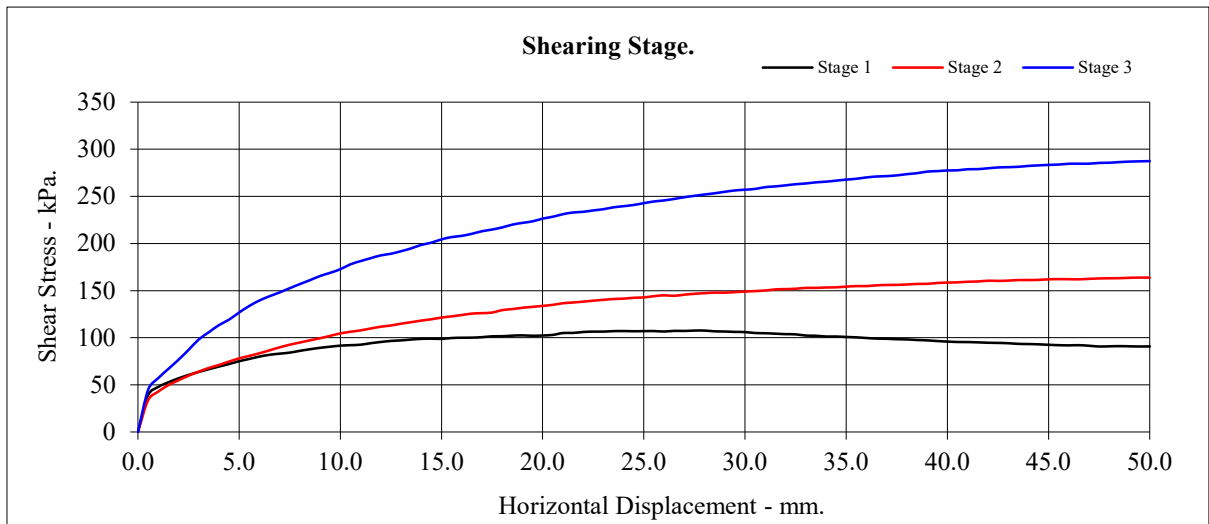
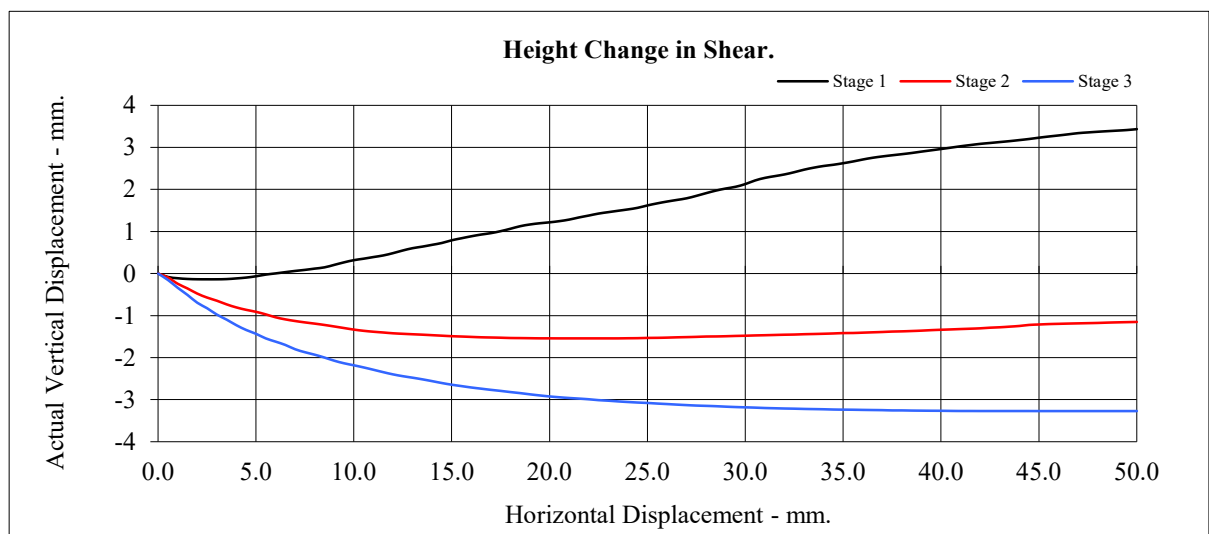
Central Manchester

Contract No:
PSL24/5095
Client Ref:
28621

CONSOLIDATED DRAINED SHEARBOX TEST

BS1377:Part 7:1990 Clause 5 SHW Clause 636 Paragraph 2

Sample Number:	DN6381/4	Source:	NS
Location:	Ash Fill	Supplier:	NS



Central Manchester

Contract No:
PSL24/5095
Client Ref:
28621

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

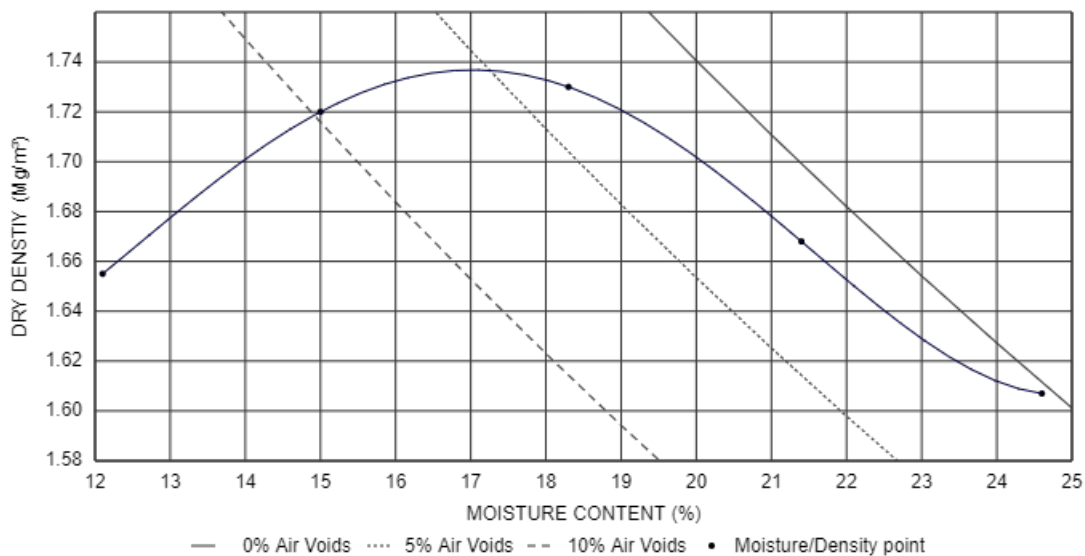
Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 299203.6.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	470460	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/2	SITE:	Central Manchester
DATE SAMPLED:	06/06/2024	SUPPLIER:	Ex-Site, N/S
SAMPLED BY:	Unknown	MATERIAL:	Black Granular Ash and Gravel
DATE RECEIVED:	10/06/2024	LOCATION:	Ramp
DATE COMPLETED:	10/07/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	CA, OB		
TYPE OF SAMPLE:	Disturbed	COMPACTION SAMPLE:	Separate samples
VARIATIONS:	None	SAMPLING PLAN:	Client Specification
ENVIRONMENTAL CONDITIONS:	Overcast	METHOD OF SAMPLING:	Sampled by client
LOCATION AND ORIENTATION:	Ramp		

RESULT Test Location: CTS Doncaster Soils

MAXIMUM DRY DENSITY:	1.74 Mg/m ³
OPTIMUM MOISTURE CONTENT:	17 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE:	4 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE:	2 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS:	2.67 Mg/m ³

MOISTURE CONTENT / DRY DENSITY RELATIONSHIP



Remarks:
Test results reported relate only to the items tested.
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Bootham Lane Industrial Estate,
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0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

For and on behalf of CTS
Alan D'Rozario - Project Manager



Approved Signatory
Report date 10-Jul-24

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

DETERMINATION OF THE MOISTURE CONTENT OF SOILS

BS 1377:Part 2:1990 clause 3.2 - oven drying method

REPORT NUMBER: C1087613 / 299203.1.1.1
SAMPLE NUMBER: See Below
CLIENT REF: See Below
DATE SAMPLED: 06/06/2024
SAMPLED BY: Unknown
DATE RECEIVED: 10/06/2024
DATE COMPLETED: 14/06/2024
TESTED BY: CL, CA
TYPE OF SAMPLE: Disturbed sample
SAMPLING PLAN: Client Specification
ENVIRONMENTAL CONDITIONS: Overcast

CLIENT: Provectus Remediation Ltd
ADDRESS: Regent House , Bath Avenue , Wolverhampton , WV1 4EG
SITE: Central Manchester
SUPPLIER: Ex-Site
SOURCE: N/S
MATERIAL: See Below
LOCATION: See Below
PREPARATION METHOD: BS 1377-1: 2016 clause 8
METHOD OF SAMPLING: Sampled by client
LOCATION AND ORIENTATION WITHIN SAMPLE: Ash Fill

TEST RESULT: Test Location: CTS Doncaster Soils

SAMPLE NO.	CLIENT REF.	LOCATION OF TEST	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	LOWER LIMIT	UPPER LIMIT
470459	DN6381/1	Ash Fill	Black clayey very sandy GRAVEL (Crushed Brick, Occasional Cobbles)	12	NA	NA

Remarks:

Test results reported relate only to the items tested.
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Bootham Lane Industrial Estate,
Dunscroft,
Doncaster,
South Yorkshire DN7 4JU

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www.constructiontesting.co.uk
END OF REPORT

For and on behalf of CTS
Reece Walker - Senior Technician



Approved Signatory
Report date 05-Jul-24

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Page 1 of 1

DETERMINATION OF THE MOISTURE CONTENT OF SOILS

BS 1377:Part 2:1990 clause 3.2 - oven drying method

REPORT NUMBER: C1087613 / 299203.5.1.1

SAMPLE NUMBER: See Below CLIENT: Provectus Remediation Ltd

CLIENT REF: See Below ADDRESS: Regent House , Bath Avenue , Wolverhampton , WV1 4EG

DATE SAMPLED: 06/06/2024 SITE: Central Manchester

SAMPLED BY: Unknown SUPPLIER: Ex-Site

DATE RECEIVED: 10/06/2024 SOURCE: N/S

DATE COMPLETED: 14/06/2024 MATERIAL: See Below

TESTED BY: CL, CA LOCATION: See Below

TYPE OF SAMPLE: Disturbed sample PREPARATION METHOD: BS 1377-1: 2016 clause 8

SAMPLING PLAN: Client Specification METHOD OF SAMPLING: Sampled by client

ENVIRONMENTAL CONDITIONS: Overcast LOCATION AND ORIENTATION: Ramp

WITHIN SAMPLE:

TEST RESULT: Test Location: CTS Doncaster Soils

SAMPLE NO.	CLIENT REF.	LOCATION OF TEST	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	LOWER LIMIT	UPPER LIMIT
470460	DN6381/2	Ramp	Black very clayey SAND & GRAVEL (Granular Ash and Gravel)	20	NA	NA

Remarks:

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END OF REPORT

For and on behalf of CTS
Reece Walker - Senior Technician



Approved Signatory
Report date 05-Jul-24

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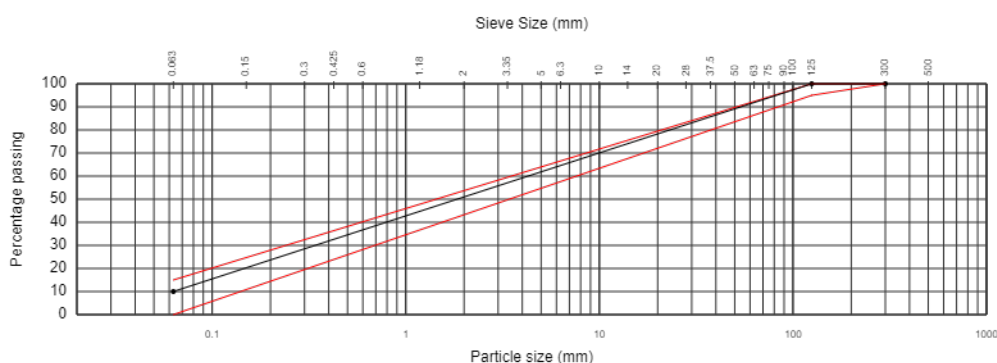
Page 1 of 1

TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 299203.3.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	470459	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/1	SITE:	Central Manchester
DATE SAMPLED:	06/06/2024	SOURCE / SUPPLIER:	Ex-Site, N/S
SAMPLED BY:	Client	MATERIAL DESCRIPTION:	Black clayey very sandy GRAVEL (Crushed Brick, Occasional Cobbles)
DATE RECEIVED:	10/06/2024	PROPOSED CLASSIFICATION:	Class 1A
DATE COMPLETED:	19/06/2024	LOCATION:	Ash Fill
TESTED BY:	CL, CA, PC	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION WITHIN SAMPLE:	Ash Fill
METHOD OF SAMPLING:	Sampled by client		
ENVIRONMENTAL CONDITIONS:	Overcast		

RESULT Test Location: CTS Doncaster Soils



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
 Percentage COBBLES: 0%
 Percentage GRAVEL: 70%
 Percentage SAND: 20%
 Percentage SILT/CLAY: 10%

Applied Specification: Class 1A - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 1A
 Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	100 - 100
125	100	95 - 100
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	86	
28	80	
20	72	
14	63	
10	55	
6.3	45	
5	41	
3.35	35	
2	30	
1.18	27	
0.6	24	
0.425	22	
0.3	19	
0.15	13	
0.063	10	0 - 15

Remarks:
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 Reece Walker - Senior Technician



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DETERMINATION OF THE PLASTICITY INDEX OF SOIL

Tested in accordance with BS 1377:Part 2:1990 clause 5.4

REPORT NUMBER:	C1087613 / 299203.4.1.1		
SAMPLE NUMBER:	470459	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	DN6381/1	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE SAMPLED:	06/06/2024	SITE:	Central Manchester
SAMPLED BY:	Unknown	SUPPLIER:	Ex-Site, N/S
DATE RECEIVED:	10/06/2024	MATERIAL:	Black clayey very sandy GRAVEL (Crushed Brick, Occasional Cobbles)
DATE COMPLETED:	03/07/2024	LOCATION:	Ash Fill
TESTED BY:	Bethany Higgins	PREPARATION METHOD:	BS 1377:Part 1:2016 cl 8.3 & 8.4.3
TYPE OF SAMPLE:	Disturbed sample	VARIATIONS:	None
WITHIN ORIGINAL SAMPLE:	N/A	SAMPLING PLAN:	Client Specification
ENVIRONMENTAL CONDITIONS:	Overcast	METHOD OF SAMPLING:	Sampled by client

RESULTS: Test Location: CTS Doncaster Soils

TEST DETAILS	TEST RESULT	SPECIFICATION LIMITS	
		Lower Limit	Upper Limit
THE LIQUID LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 4.4 one point)	56%	N/A	N/A
THE PLASTIC LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 5.3)	25%	N/A	N/A
THE PLASTICITY INDEX OF THE SAMPLE:	31%		
THE PERCENTAGE PASSING 425µm TEST SIEVE:	95%		
Sample History:	The material was tested in the natural state		

Remarks:

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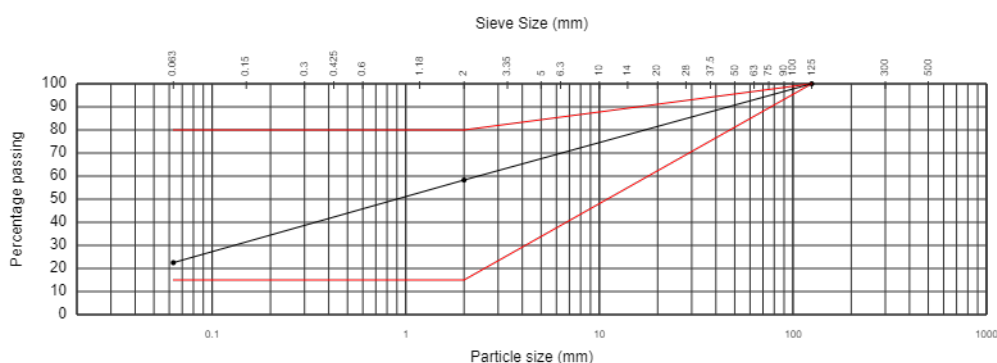


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TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 299203.7.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	470460	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/2	SITE:	Central Manchester
DATE SAMPLED:	06/06/2024	SOURCE / SUPPLIER:	Ex-Site, N/S
SAMPLED BY:	Client	MATERIAL DESCRIPTION:	Black very clayey SAND & GRAVEL (Granular Ash and Gravel)
DATE RECEIVED:	10/06/2024	PROPOSED CLASSIFICATION:	Class 2C
DATE COMPLETED:	19/06/2024	LOCATION:	Ramp
TESTED BY:	CL, PC	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION WITHIN SAMPLE:	Ramp
METHOD OF SAMPLING:	Sampled by client		
ENVIRONMENTAL CONDITIONS:	Overcast		

RESULT Test Location: CTS Doncaster Soils


Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND		GRAVEL				COBBLE	BOULDERS

Percentage BOULDERS: 0%
 Percentage COBBLES: 0%
 Percentage GRAVEL: 42%
 Percentage SAND: 36%
 Percentage SILT/CLAY: 23%

Applied Specification: Class 2C - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 2C
 Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	100 - 100
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	96	
28	93	
20	89	
14	87	
10	83	
6.3	76	
5	72	
3.35	65	
2	58	15 - 80
1.18	52	
0.6	45	
0.425	42	
0.3	36	
0.15	27	
0.063	23	15 - 80

Remarks:

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For and on behalf of CTS
 Reece Walker - Senior Technician

Approved Signatory
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DETERMINATION OF THE PLASTICITY INDEX OF SOIL

Tested in accordance with BS 1377:Part 2:1990 clause 5.4

REPORT NUMBER:	C1087613 / 299203.8.1.1		
SAMPLE NUMBER:	470460	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	DN6381/2	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE SAMPLED:	06/06/2024	SITE:	Central Manchester
SAMPLED BY:	Unknown	SUPPLIER:	Ex-Site, N/S
DATE RECEIVED:	10/06/2024	MATERIAL:	Black very clayey SAND & GRAVEL (Granular Ash and Gravel)
DATE COMPLETED:	27/06/2024	LOCATION:	Ramp
TESTED BY:	CA, BH	PREPARATION METHOD:	BS 1377:Part 1:2016 cl 8.3 & 8.4.3
TYPE OF SAMPLE:	Disturbed sample	VARIATIONS:	None
WITHIN ORIGINAL SAMPLE:	N/A	SAMPLING PLAN:	Client Specification
ENVIRONMENTAL CONDITIONS:	Overcast	METHOD OF SAMPLING:	Sampled by client

RESULTS: Test Location: CTS Doncaster Soils

TEST DETAILS	TEST RESULT	SPECIFICATION LIMITS	
		Lower Limit	Upper Limit
THE LIQUID LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 4.4 one point)	54%	N/A	N/A
THE PLASTIC LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 5.3)	Non plastic	N/A	N/A
THE PLASTICITY INDEX OF THE SAMPLE:	Not available		
THE PERCENTAGE PASSING 425µm TEST SIEVE:	26%		
Sample History:	The material was tested after washing through a 425µm test sieve		

Remarks:

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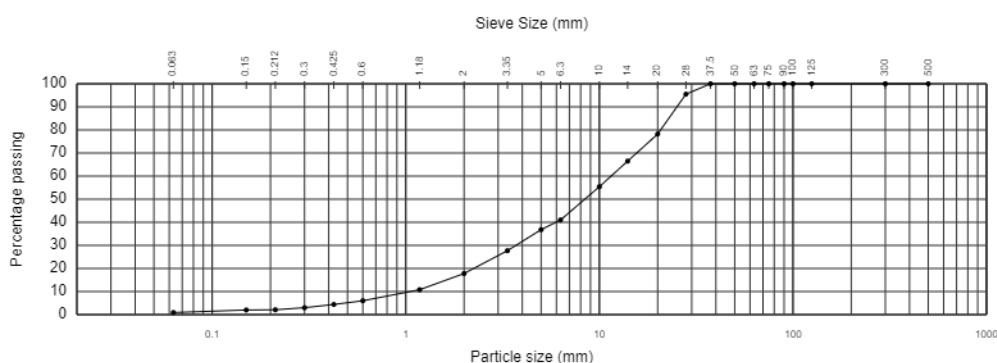
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TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.4.1.3	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479252	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/7	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	Ash Fill
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	
DATE COMPLETED:	04/09/2024	LOCATION:	Ash Fill
TESTED BY:	RP, RH, CG	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION	N/A
METHOD OF SAMPLING:	Sampled by client	WITHIN SAMPLE:	
ENVIRONMENTAL CONDITIONS:	Clear		

RESULT Test Location: Harrietsham Lab



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	63	200
0.020	0.063	0.20	0.63	2.0	6.3	20		
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
Percentage COBBLES: 0%
Percentage GRAVEL: 82%
Percentage SAND: 17%
Percentage SILT/CLAY: 1%

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	96	
20	78	
14	67	
10	55	
6.3	41	
5	37	
3.35	28	
2	18	
1.18	11	
0.6	6	
0.425	4	
0.3	3	
0.212	2	
0.15	2	
0.063	1	

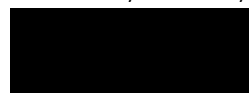
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For and on behalf of CTS
Mike Gray - Laboratory Supervisor



Approved Signatory
Report date 04-Sep-24

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DETERMINATION OF THE PLASTICITY INDEX OF SOIL

Tested in accordance with BS 1377:Part 2:1990 clause 5.4

REPORT NUMBER:	C1087613 / 303457.5.1.5	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479255	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/9	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	04/09/2024	PREPARATION METHOD:	BS 1377:Part 1:2016 cl 8.3 & 8.4.3
TESTED BY:	JW, CB	VARIATIONS:	None
TYPE OF SAMPLE:	Disturbed sample	SAMPLING PLAN:	Client Specification
WITHIN ORIGINAL SAMPLE:	N/A	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:			

RESULTS: Test Location: Harrietsham Lab

TEST DETAILS	TEST RESULT	SPECIFICATION LIMITS	
		Lower Limit	Upper Limit
THE LIQUID LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 4.4 one point)	27%	N/A	N/A
THE PLASTIC LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 5.3)	Non plastic	N/A	N/A
THE PLASTICITY INDEX OF THE SAMPLE:	Not available		
THE PERCENTAGE PASSING 425µm TEST SIEVE:	33%		
Sample History:	The material was tested after washing through a 425µm test sieve		

Remarks:

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Mike Gray - Laboratory Supervisor



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DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

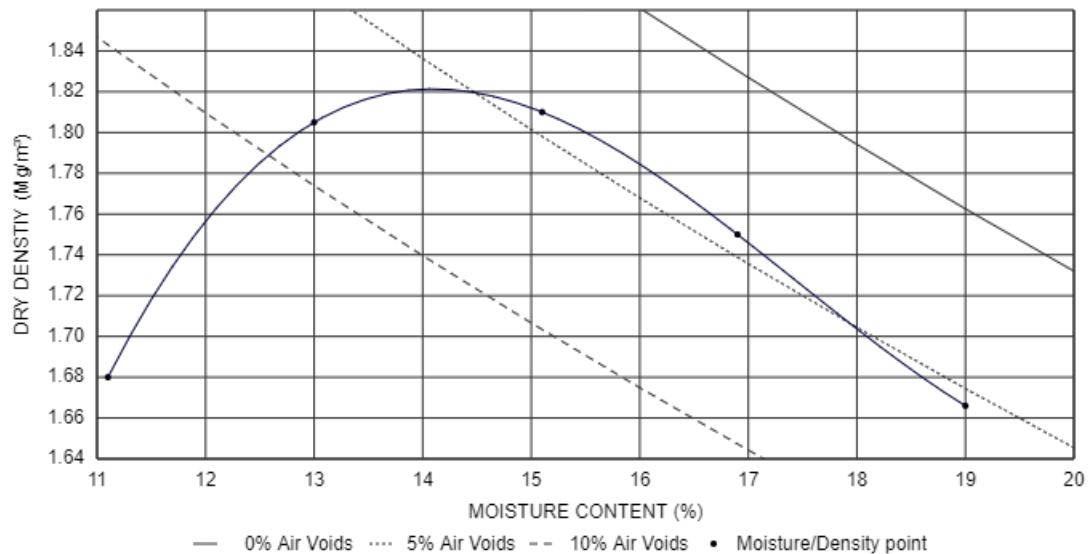
Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 303457.3.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479249	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/5	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	03/09/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	Jacob Tindall	COMPACTION SAMPLE:	Separate samples
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	None	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Clear		
LOCATION AND ORIENTATION:	N/A		

RESULT Test Location: Harrietsham Lab

MAXIMUM DRY DENSITY: 1.82 Mg/m³
OPTIMUM MOISTURE CONTENT: 14 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE: 17 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE: 8 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS: 2.65 Mg/m³

MOISTURE CONTENT / DRY DENSITY RELATIONSHIP



Remarks:
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Dan Gay - Laboratory Manager



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DETERMINATION OF THE PLASTICITY INDEX OF SOIL

Tested in accordance with BS 1377:Part 2:1990 clause 5.4

REPORT NUMBER:	C1087613 / 303457.5.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479249	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/5	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	29/08/2024	PREPARATION METHOD:	BS 1377:Part 1:2016 cl 8.3 & 8.4.3
TESTED BY:	Casey Bassant	VARIATIONS:	None
TYPE OF SAMPLE:	Disturbed sample	SAMPLING PLAN:	Client Specification
WITHIN ORIGINAL SAMPLE:	N/A	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Clear		

RESULTS: Test Location: Harrietsham Lab

TEST DETAILS	TEST RESULT	SPECIFICATION LIMITS	
		Lower Limit	Upper Limit
THE LIQUID LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 4.4 one point)	29%	N/A	N/A
THE PLASTIC LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 5.3)	Non plastic	N/A	N/A
THE PLASTICITY INDEX OF THE SAMPLE:	Not available		
THE PERCENTAGE PASSING 425µm TEST SIEVE:	26%		
Sample History:	The material was tested after washing through a 425µm test sieve		

Remarks:

Test results reported relate only to the items tested.
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Dan Gay - Laboratory Manager



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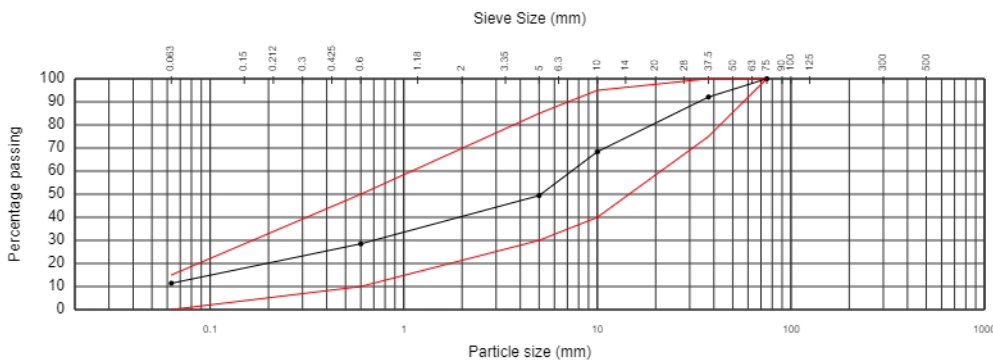
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TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.4.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479249	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/5	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	Ash Fill
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	Class 6F1
DATE COMPLETED:	30/08/2024	LOCATION:	Ash Fill
TESTED BY:	MW, RP, RH	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION	N/A
METHOD OF SAMPLING:	Sampled by client	WITHIN SAMPLE:	
ENVIRONMENTAL CONDITIONS:	Clear		

RESULT Test Location: Harrietsham Lab



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
 Percentage COBBLES: 0%
 Percentage GRAVEL: 64%
 Percentage SAND: 25%
 Percentage SILT/CLAY: 11%

Applied Specification: Class 6F1 - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 6F1
 Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	100 - 100
63	100	
50	94	
37.5	92	75 - 100
28	88	
20	83	
14	78	
10	68	40 - 95
6.3	57	
5	49	30 - 85
3.35	43	
2	36	
1.18	33	
0.6	29	10 - 50
0.425	26	
0.3	21	
0.212	17	
0.15	14	
0.063	11	0 - 15

Remarks:
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For and on behalf of CTS
 Dan Gay - Laboratory Manager



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DETERMINATION OF THE MOISTURE CONTENT OF SOILS

BS 1377:Part 2:1990 clause 3.2 - oven drying method

REPORT NUMBER: C1087613 / 303457.2.1.1

SAMPLE NUMBER: See Below

CLIENT REF: See Below

DATE SAMPLED: 17/07/2024

SAMPLED BY: Ellis Wilson

DATE RECEIVED: 18/07/2024

DATE COMPLETED: 28/08/2024

TESTED BY: HS, RH

TYPE OF SAMPLE: Disturbed sample

SAMPLING PLAN: Client Specification

ENVIRONMENTAL CONDITIONS: Clear

CLIENT:

ADDRESS:

SITE:

SUPPLIER:

SOURCE:

MATERIAL:

LOCATION:

PREPARATION METHOD:

METHOD OF SAMPLING:

LOCATION AND ORIENTATION

WITHIN SAMPLE:

Provectus Remediation Ltd

Regent House , Bath Avenue , Wolverhampton , WV1 4EG

Central Manchester

Ex site

Ex site

See Below

See Below

BS 1377-1: 2016 clause 8

Sampled by client

N/A

TEST RESULT: Test Location: Harrietsham Lab

SAMPLE NO.	CLIENT REF.	LOCATION OF TEST	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	LOWER LIMIT	UPPER LIMIT
479249	DN6381/5	Ash Fill	Ash Fill	13	NA	NA
479250	DN6381/6	Ash Fill	Ash Fill	15	NA	NA
479252	DN6381/7	Ash Fill	Ash Fill	6.5	NA	NA
479253	DN6381/8	Ash Fill	Ash Fill	12	NA	NA
479255	DN6381/9	Ash Fill	Ash Fill	13	NA	NA

Remarks:

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Report Format: MC/TP01/Rep Issue 1 Rev 1 06/22

Northdown House, Ashford Road
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END OF REPORT

For and on behalf of CTS
Reece Walker - Senior Technician



Approved Signatory
Report date 03-Sep-24

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4161

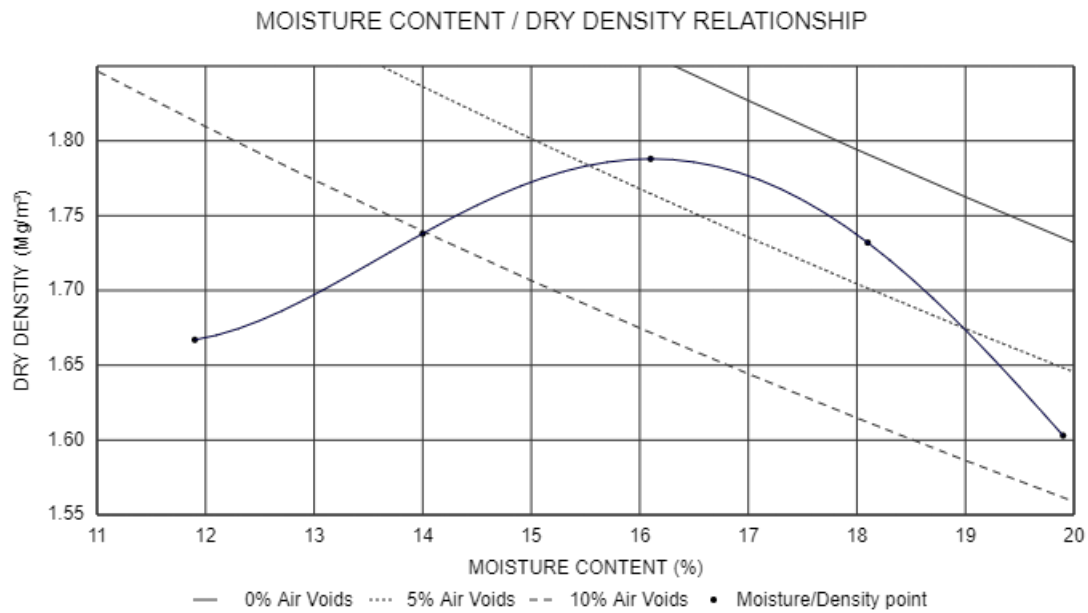
DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 303457.3.1.2	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479250	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/6	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	03/09/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	Jacob Tindall	COMPACTION SAMPLE:	Separate samples
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	None	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Unknown		
LOCATION AND ORIENTATION:	N/A		

RESULT Test Location: Harrietsham Lab

MAXIMUM DRY DENSITY: 1.79 Mg/m³
OPTIMUM MOISTURE CONTENT: 16 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE: 12 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE: 3 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS: 2.65 Mg/m³



Remarks:
Test results reported relate only to the items tested.
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Report Format: OMC2.5/TP06/Rep Issue 1 Rev 2 09/23

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For and on behalf of CTS
Dan Gay - Laboratory Manager

Approved Signatory
Report date 03-Sep-24

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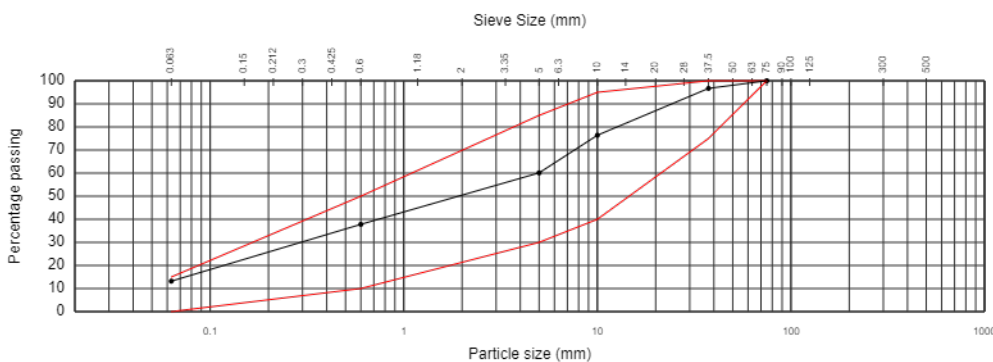
4161

TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.4.1.2	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479250	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/6	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	Ash Fill
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	Class 6F1
DATE COMPLETED:	30/08/2024	LOCATION:	Ash Fill
TESTED BY:	MW, RP, RH	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION WITHIN SAMPLE:	N/A
METHOD OF SAMPLING:	Sampled by client		
ENVIRONMENTAL CONDITIONS:			

RESULT **Test Location: Harrietsham Lab**



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	63	200
0.020	0.063	0.20	0.63	2.0	6.3	20		
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
 Percentage COBBLES: 0%
 Percentage GRAVEL: 54%
 Percentage SAND: 33%
 Percentage SILT/CLAY: 13%

Applied Specification: Class 6F1 - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 6F1
 Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	100 - 100
63	100	
50	100	
37.5	97	75 - 100
28	93	
20	88	
14	82	
10	76	40 - 95
6.3	70	
5	60	30 - 85
3.35	53	
2	46	
1.18	41	
0.6	38	10 - 50
0.425	28	
0.3	24	
0.212	16	
0.15	15	
0.063	13	0 - 15

Remarks:
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Report Format: PSDsoil/TP02/Rep Issue 1 Rev 1 09/23

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 END OF REPORT

For and on behalf of CTS
 Dan Gay - Laboratory Manager



Approved Signatory
 Report date 30-Aug-24

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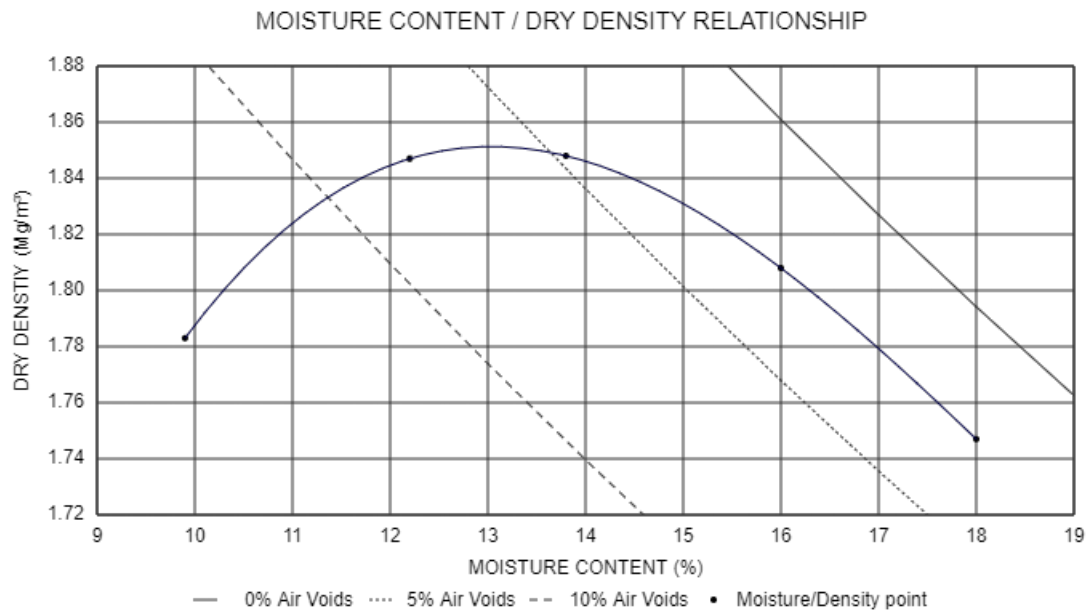
DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 303457.3.1.3	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479252	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/7	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	03/09/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	Jacob Tindall	COMPACTION SAMPLE:	Separate samples
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	None	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Clear		
LOCATION AND ORIENTATION:	N/A		

RESULT Test Location: Harrietsham Lab

MAXIMUM DRY DENSITY: 1.85 Mg/m³
OPTIMUM MOISTURE CONTENT: 13 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE: 22 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE: 0 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS: 2.65 Mg/m³



Remarks:
Test results reported relate only to the items tested.
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For and on behalf of CTS
Dan Gay - Laboratory Manager



Approved Signatory
Report date 03-Sep-24

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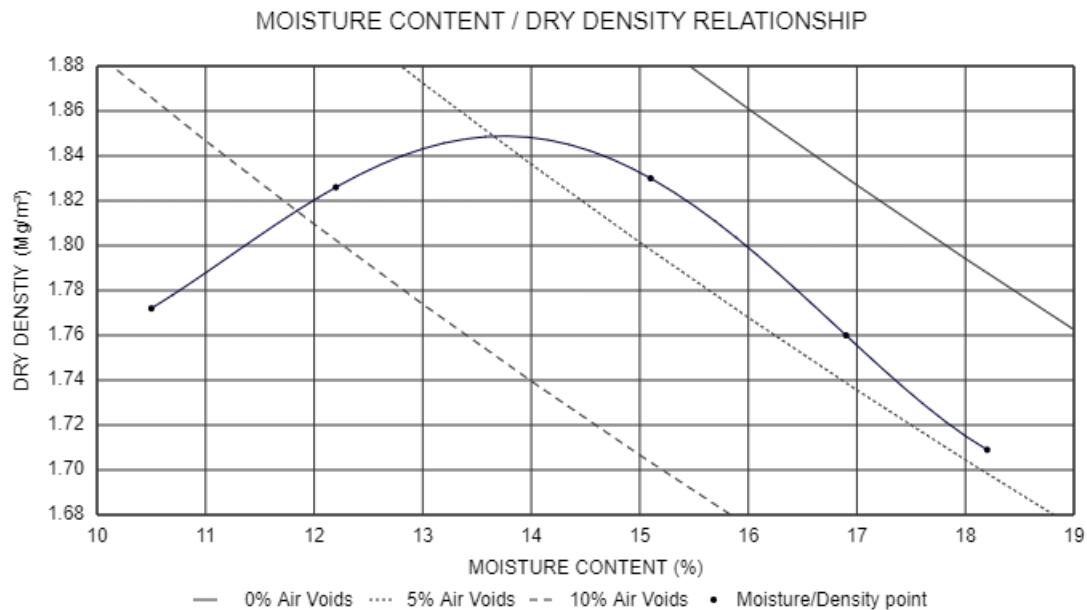
DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 303457.3.1.4	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479253	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/8	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	03/09/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	Jacob Tindall	COMPACTION SAMPLE:	Separate samples
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	None	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Clear		
LOCATION AND ORIENTATION:	N/A		

RESULT Test Location: Harrietsham Lab

MAXIMUM DRY DENSITY: 1.85 Mg/m³
OPTIMUM MOISTURE CONTENT: 14 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE: 22 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE: 9 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS: 2.65 Mg/m³



Remarks:
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Dan Gay - Laboratory Manager

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Report date 03-Sep-24

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DETERMINATION OF THE PLASTICITY INDEX OF SOIL

Tested in accordance with BS 1377:Part 2:1990 clause 5.4

REPORT NUMBER:	C1087613 / 303457.5.1.4	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479253	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/8	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	29/08/2024	PREPARATION METHOD:	BS 1377:Part 1:2016 cl 8.3 & 8.4.3
TESTED BY:	Casey Bassant	VARIATIONS:	None
TYPE OF SAMPLE:	Disturbed sample	SAMPLING PLAN:	Client Specification
WITHIN ORIGINAL SAMPLE:	N/A	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Clear		

RESULTS: Test Location: Harrietsham Lab

TEST DETAILS	TEST RESULT	SPECIFICATION LIMITS	
		Lower Limit	Upper Limit
THE LIQUID LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 4.4 one point)	29%	N/A	N/A
THE PLASTIC LIMIT OF THE SAMPLE: (BS 1377: Part 2:1990 clause 5.3)	Non plastic	N/A	N/A
THE PLASTICITY INDEX OF THE SAMPLE:	Not available		
THE PERCENTAGE PASSING 425µm TEST SIEVE:	23%		
Sample History:	The material was tested after washing through a 425µm test sieve		

Remarks:

Test results reported relate only to the items tested.
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Report Format: PI/TP04/Rep Issue 1 Rev 1 08/23

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For and on behalf of CTS
Dan Gay - Laboratory Manager



Approved Signatory
Report date 30-Aug-24

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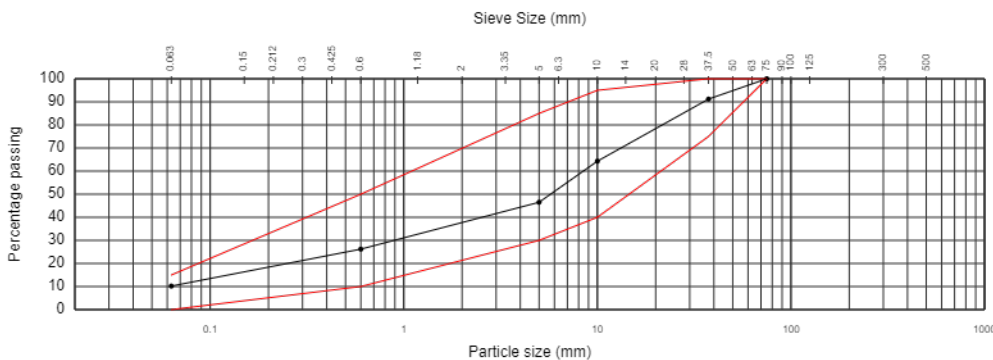
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TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.4.1.4	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479253	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/8	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	Ash Fill
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	Class 6F1
DATE COMPLETED:	30/08/2024	LOCATION:	Ash Fill
TESTED BY:	MW, RP, RH	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION	N/A
METHOD OF SAMPLING:	Sampled by client	WITHIN SAMPLE:	
ENVIRONMENTAL CONDITIONS:	Clear		

RESULT **Test Location: Harrietsham Lab**



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
 Percentage COBBLES: 0%
 Percentage GRAVEL: 68%
 Percentage SAND: 22%
 Percentage SILT/CLAY: 10%

Applied Specification: Class 6F1 - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 6F1
 Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	100 - 100
63	100	
50	100	
37.5	91	75 - 100
28	88	
20	78	
14	72	
10	64	40 - 95
6.3	54	
5	47	30 - 85
3.35	38	
2	33	
1.18	29	
0.6	26	10 - 50
0.425	23	
0.3	17	
0.212	13	
0.15	12	
0.063	10	0 - 15

Remarks:
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 END OF REPORT

For and on behalf of CTS
 Dan Gay - Laboratory Manager



Approved Signatory
 Report date 30-Aug-24

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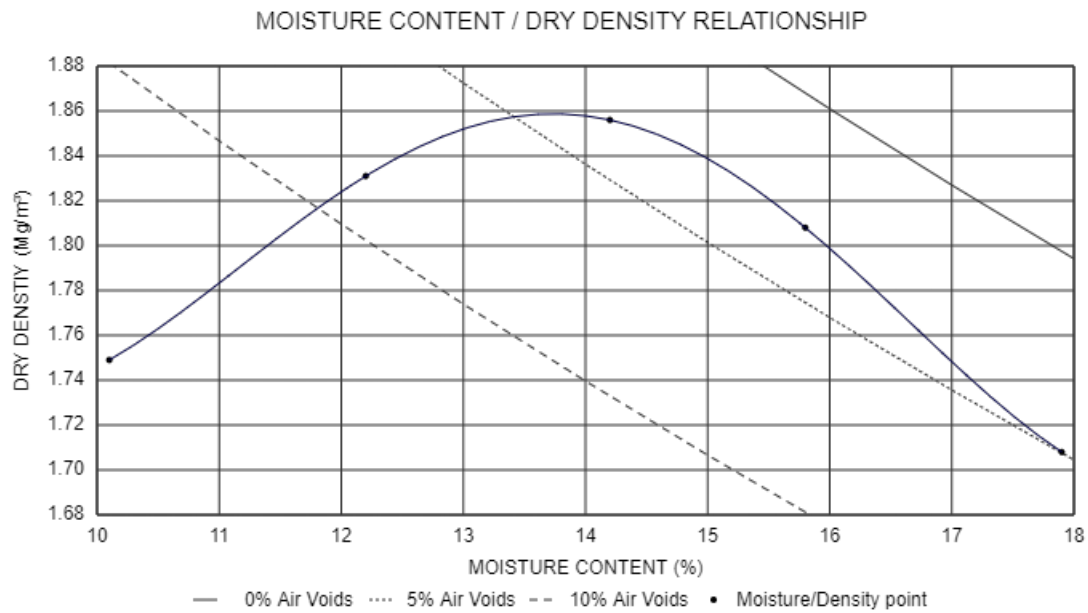
DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP

Tested in accordance with BS 1377:Part 4:1990 clause 3.4 2.5kg Rammer method

REPORT NUMBER:	C1087613 / 303457.3.1.5	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479255	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/9	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL:	Ash Fill
DATE RECEIVED:	18/07/2024	LOCATION:	Ash Fill
DATE COMPLETED:	03/09/2024	PREPARATION METHOD:	CBR Mould (BS1377:Pt1:2016 Cl8.6.3) : Material chopped to <20mm, for cohesive soil.
TESTED BY:	Jacob Tindall	COMPACTION SAMPLE:	Separate samples
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	None	METHOD OF SAMPLING:	Sampled by client
ENVIRONMENTAL CONDITIONS:	Unknown		
LOCATION AND ORIENTATION:	N/A		

RESULT Test Location: Harrietsham Lab

MAXIMUM DRY DENSITY: 1.86 Mg/m³
OPTIMUM MOISTURE CONTENT: 14 %
AMOUNT (By Dry Mass) RETAINED ON >20mm TEST SIEVE: 14 %
AMOUNT (By Dry Mass) RETAINED ON >37.5mm TEST SIEVE: 0 %
ASSUMED PARTICLE DENSITY USED TO PLOT AIR VOIDS: 2.65 Mg/m³



Remarks:
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Dan Gay - Laboratory Manager

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Report date 03-Sep-24

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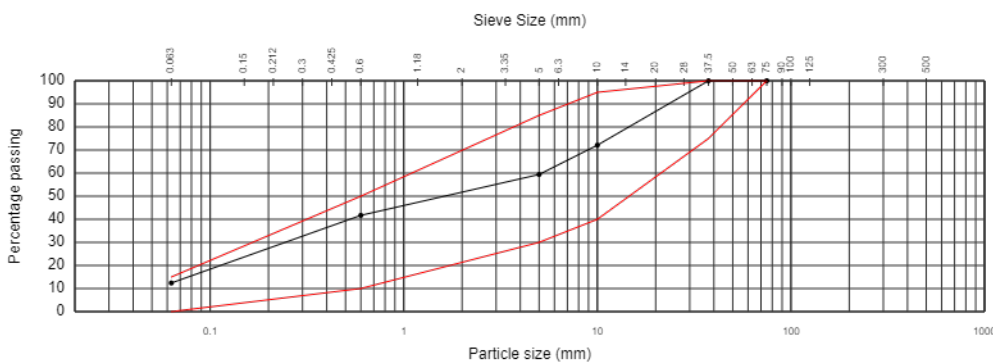
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TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.4.1.5	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479255	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/9	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	Ash Fill
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	Class 6F1
DATE COMPLETED:	30/08/2024	LOCATION:	Ash Fill
TESTED BY:	MW, RP, RH	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION	N/A
METHOD OF SAMPLING:	Sampled by client	WITHIN SAMPLE:	
ENVIRONMENTAL CONDITIONS:			

RESULT Test Location: Harrietsham Lab



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	63	200
0.020	0.063	0.20	0.63	2.0	6.3	20		
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
Percentage COBBLES: 0%
Percentage GRAVEL: 50%
Percentage SAND: 38%
Percentage SILT/CLAY: 12%

Applied Specification: Class 6F1 - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 6F1
Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	100 - 100
63	100	
50	100	
37.5	100	75 - 100
28	93	
20	86	
14	78	
10	72	40 - 95
6.3	65	
5	59	30 - 85
3.35	54	
2	50	
1.18	46	
0.6	42	10 - 50
0.425	33	
0.3	22	
0.212	17	
0.15	15	
0.063	12	0 - 15

Remarks:
Test results reported relate only to the items tested.
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For and on behalf of CTS
Dan Gay - Laboratory Manager



Approved Signatory
Report date 30-Aug-24

Construction Testing Solutions Ltd.
Registered in England No. 05998333

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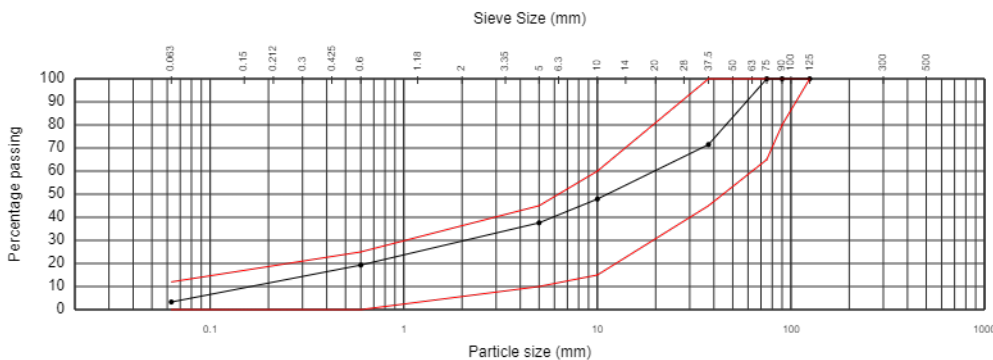
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TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.7.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479256	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/10	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	6F2
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	Class 6F2
DATE COMPLETED:	30/08/2024	LOCATION:	Clean Crush
TESTED BY:	RP, RH, CG	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Not known
VARIATIONS:	No variations	LOCATION AND ORIENTATION WITHIN SAMPLE:	N/A
METHOD OF SAMPLING:	Sampled by client		
ENVIRONMENTAL CONDITIONS:			

RESULT Test Location: Harrietsham Lab



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
Percentage COBBLES: 19%
Percentage GRAVEL: 51%
Percentage SAND: 26%
Percentage SILT/CLAY: 3%

Applied Specification: Class 6F2 - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 6F2
Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	100 - 100
100	100	
90	100	80 - 100
75	100	65 - 100
63	81	
50	76	
37.5	72	45 - 100
28	65	
20	57	
14	52	
10	48	15 - 60
6.3	39	
5	38	10 - 45
3.35	35	
2	30	
1.18	24	
0.6	19	0 - 25
0.425	16	
0.3	12	
0.212	9	
0.15	6	
0.063	3	0 - 12

Remarks:
Test results reported relate only to the items tested.
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Report Format: PSDsoil/TP02/Rep Issue 1 Rev 1 09/23

Northdown House, Ashford Road
Harrietsham, Nr Maidstone
Kent ME17 1QW

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

For and on behalf of CTS
Dan Gay - Laboratory Manager



Approved Signatory
Report date 30-Aug-24

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



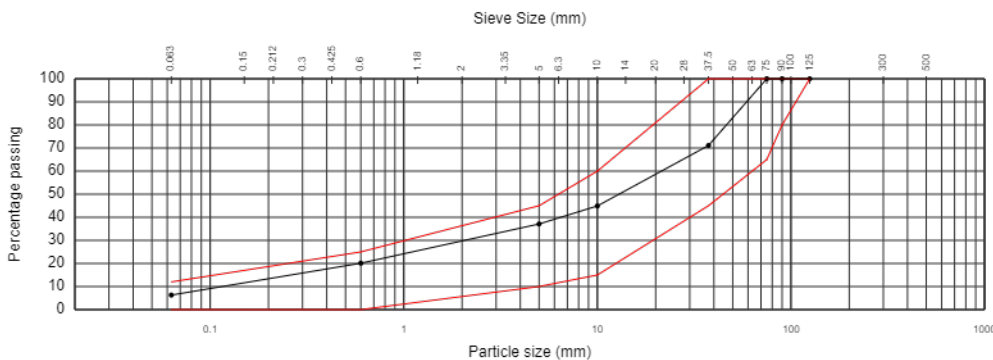
4161

TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 303457.7.1.2	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	479257	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/11	SITE:	Central Manchester
DATE SAMPLED:	17/07/2024	SOURCE / SUPPLIER:	Ex site, Ex site
SAMPLED BY:	Ellis Wilson	MATERIAL DESCRIPTION:	6F2
DATE RECEIVED:	18/07/2024	PROPOSED CLASSIFICATION:	Class 6F2
DATE COMPLETED:	30/08/2024	LOCATION:	Clean Crush
TESTED BY:	RP, RH, CG	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Not known
VARIATIONS:	No variations	LOCATION AND ORIENTATION WITHIN SAMPLE:	N/A
METHOD OF SAMPLING:	Sampled by client		
ENVIRONMENTAL CONDITIONS:	Clear		

RESULT Test Location: Harrietsham Lab



Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%
Percentage COBBLES: 15%
Percentage GRAVEL: 56%
Percentage SAND: 23%
Percentage SILT/CLAY: 6%

Applied Specification: Class 6F2 - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 6F2
Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	
125	100	100 - 100
100	100	
90	100	80 - 100
75	100	65 - 100
63	85	
50	76	
37.5	71	45 - 100
28	63	
20	55	
14	49	
10	45	15 - 60
6.3	39	
5	37	10 - 45
3.35	34	
2	30	
1.18	25	
0.6	20	0 - 25
0.425	18	
0.3	14	
0.212	11	
0.15	9	
0.063	6	0 - 12

Remarks:
Test results reported relate only to the items tested.
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Report Format: PSDsoil/TP02/Rep Issue 1 Rev 1 09/23

Northdown House, Ashford Road
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0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

For and on behalf of CTS
Dan Gay - Laboratory Manager



Approved Signatory
Report date 30-Aug-24

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161



TEST CERTIFICATE

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

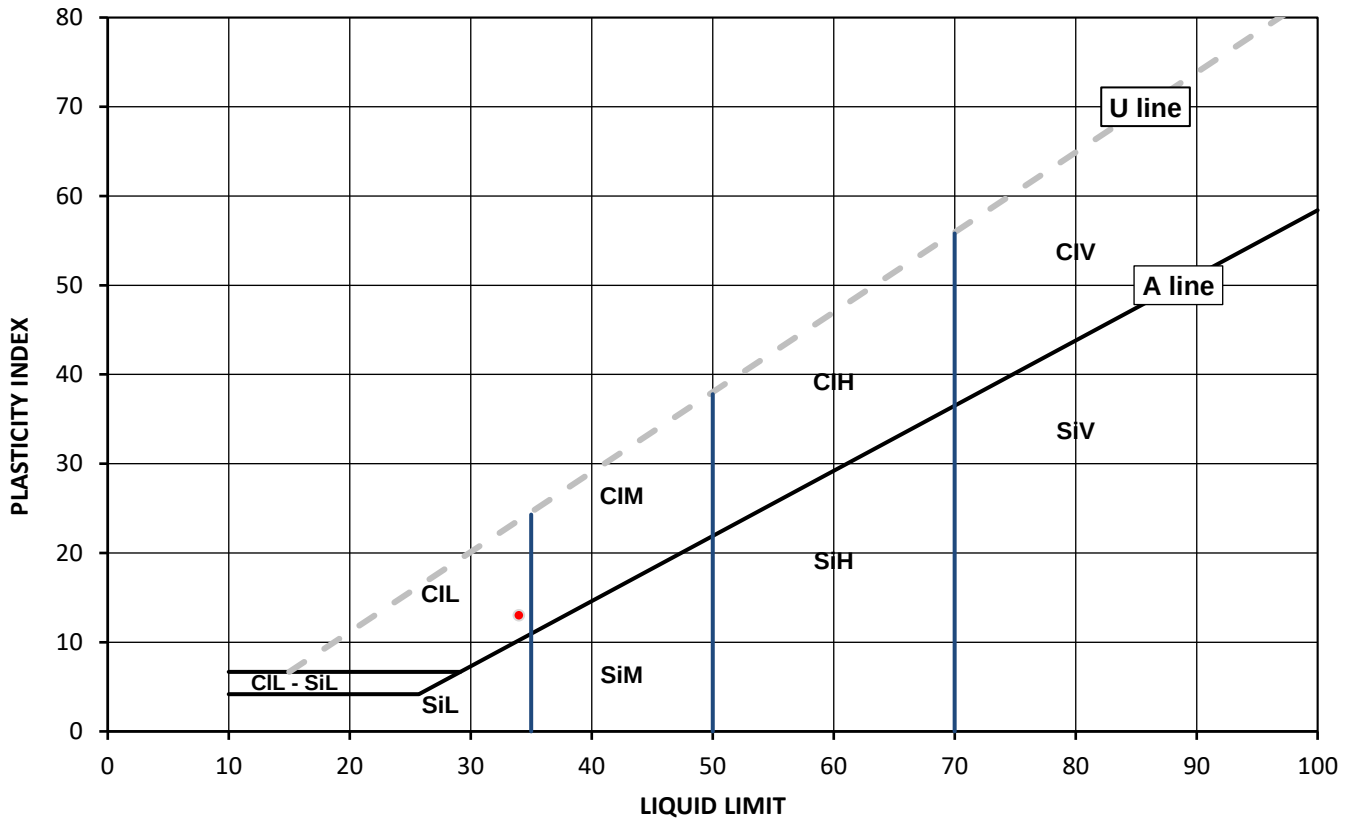
Test Results:

Laboratory Reference: 298001
Hole No.: ash fill 6
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
12.7	34	21	13	-0.62	1.62	47



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

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Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

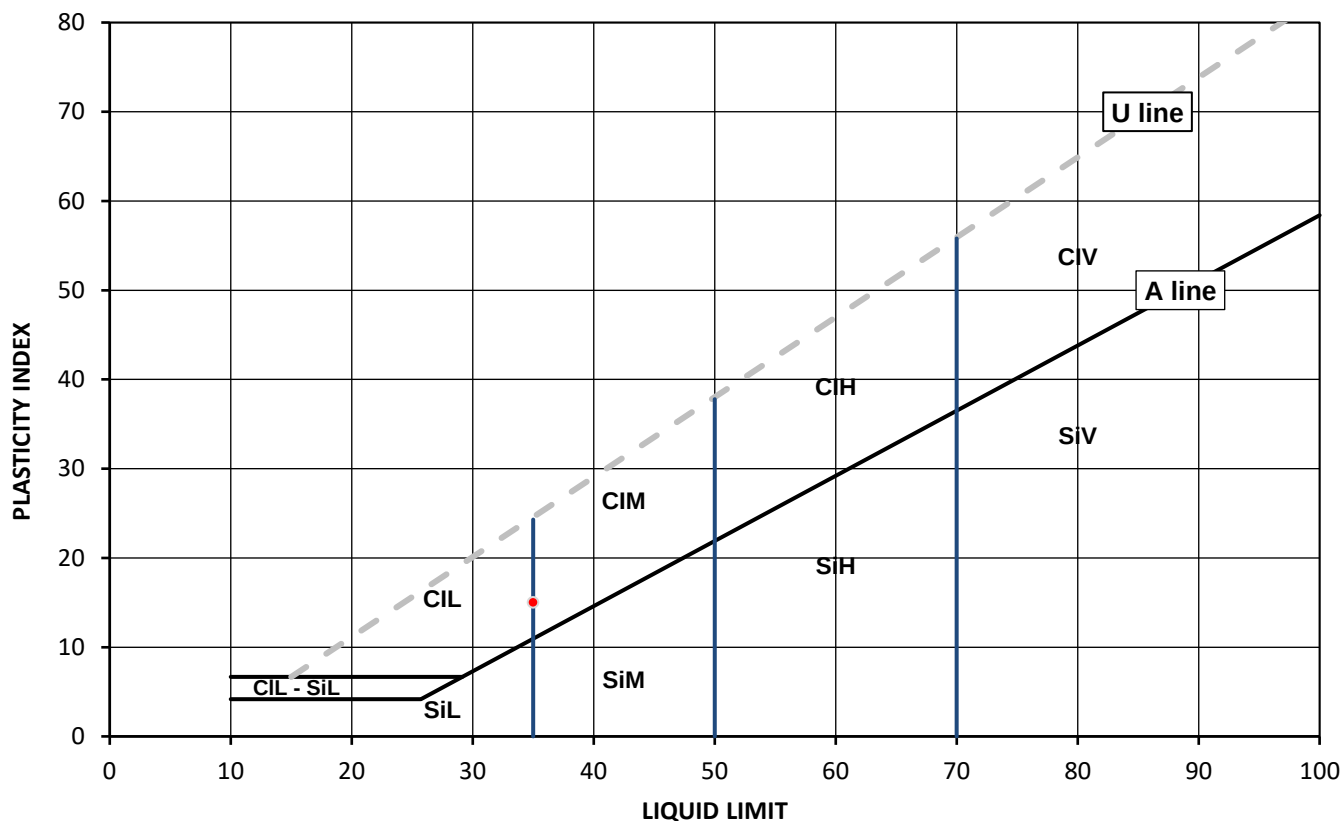
Test Results:

Laboratory Reference: 298002
Hole No.: ash fill 7
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
12.7	35	20	15	-0.47	1.47	39



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
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Environmental Science

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Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

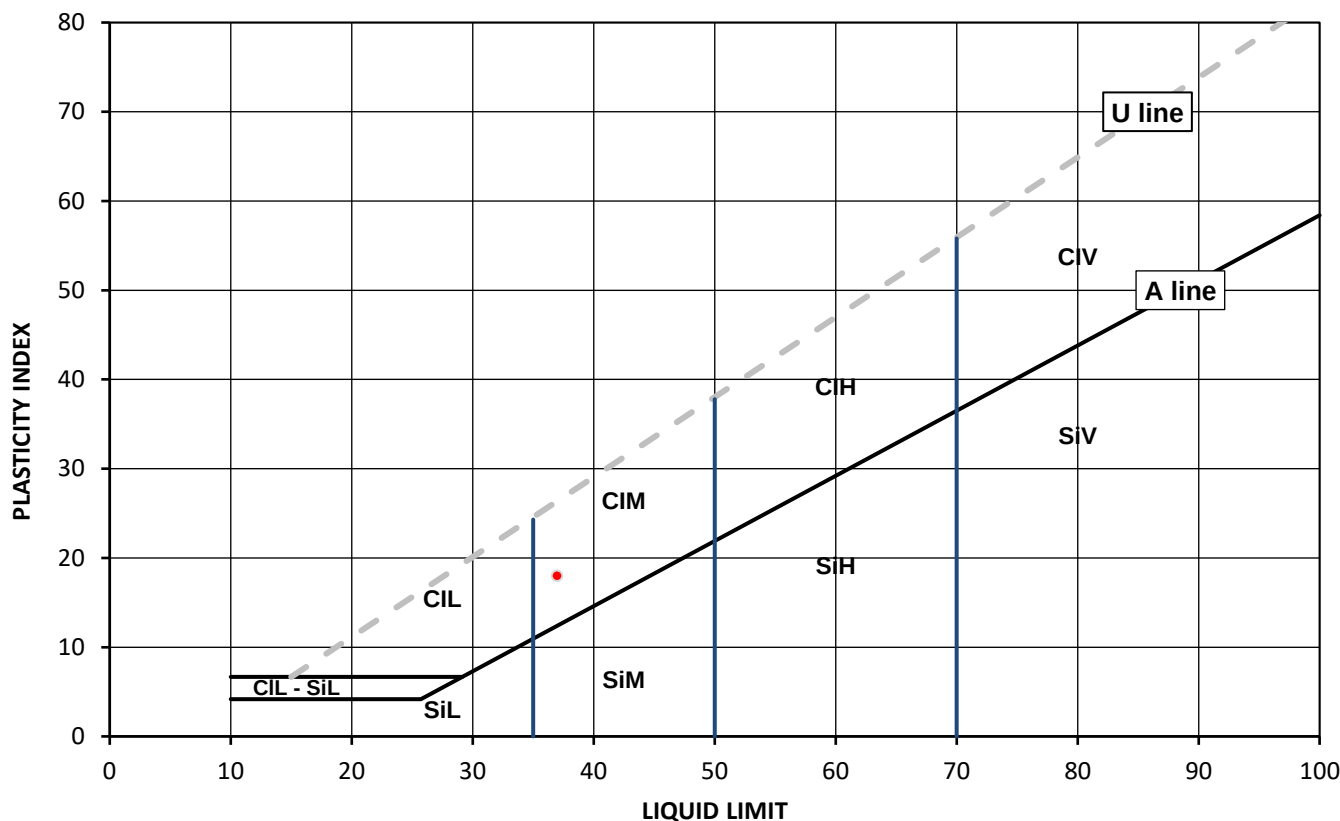
Test Results:

Laboratory Reference: 298003
Hole No.: ash fill 8
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
11.3	37	19	18	-0.44	1.44	39



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

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
		50 to 70
		exceeding 70
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Monika Siewior
Reporting Specialist
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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

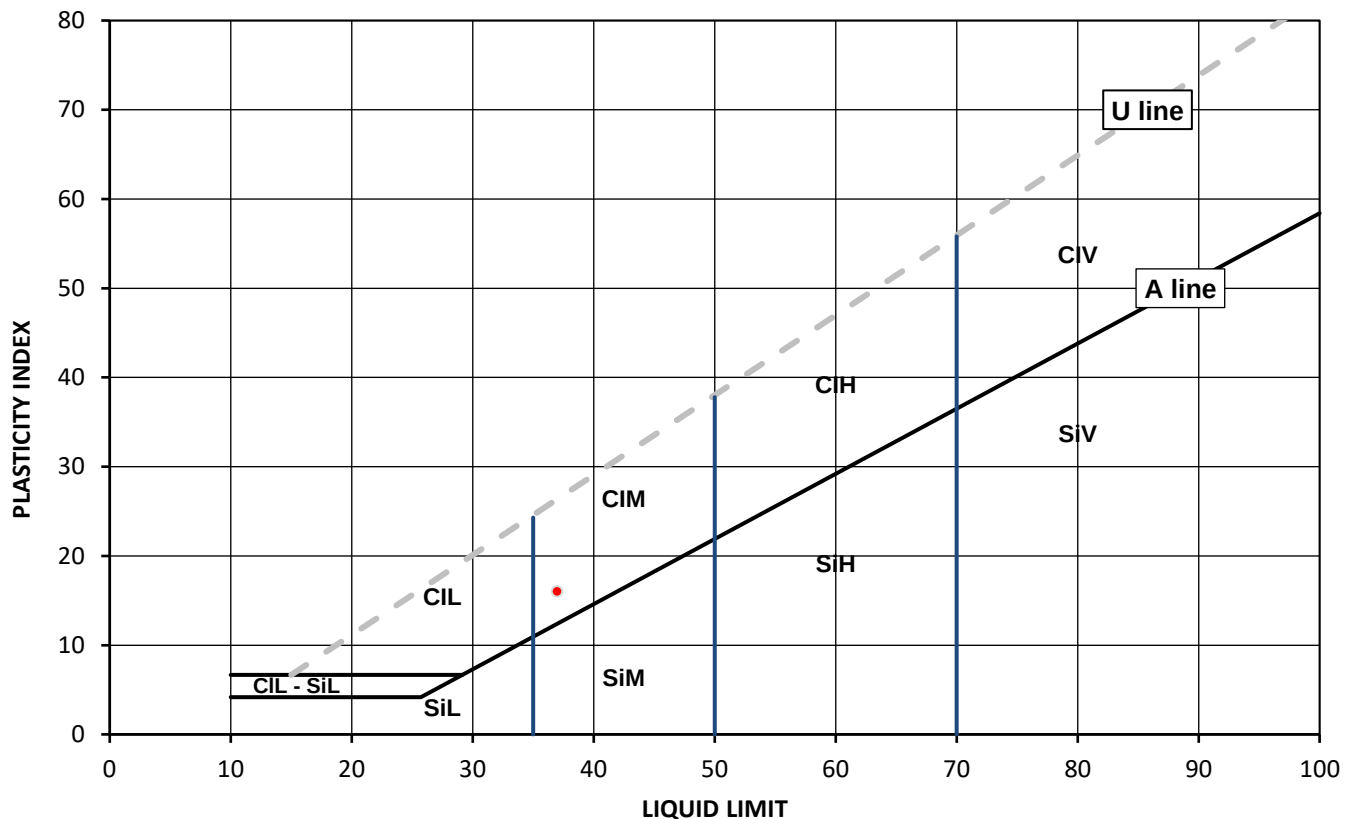
Test Results:

Laboratory Reference: 298004
Hole No.: ash fill 9
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
13.9	37	21	16	-0.44	1.44	42



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Page 1 of 1

Date Reported: 20/09/2024

GF 337.13



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

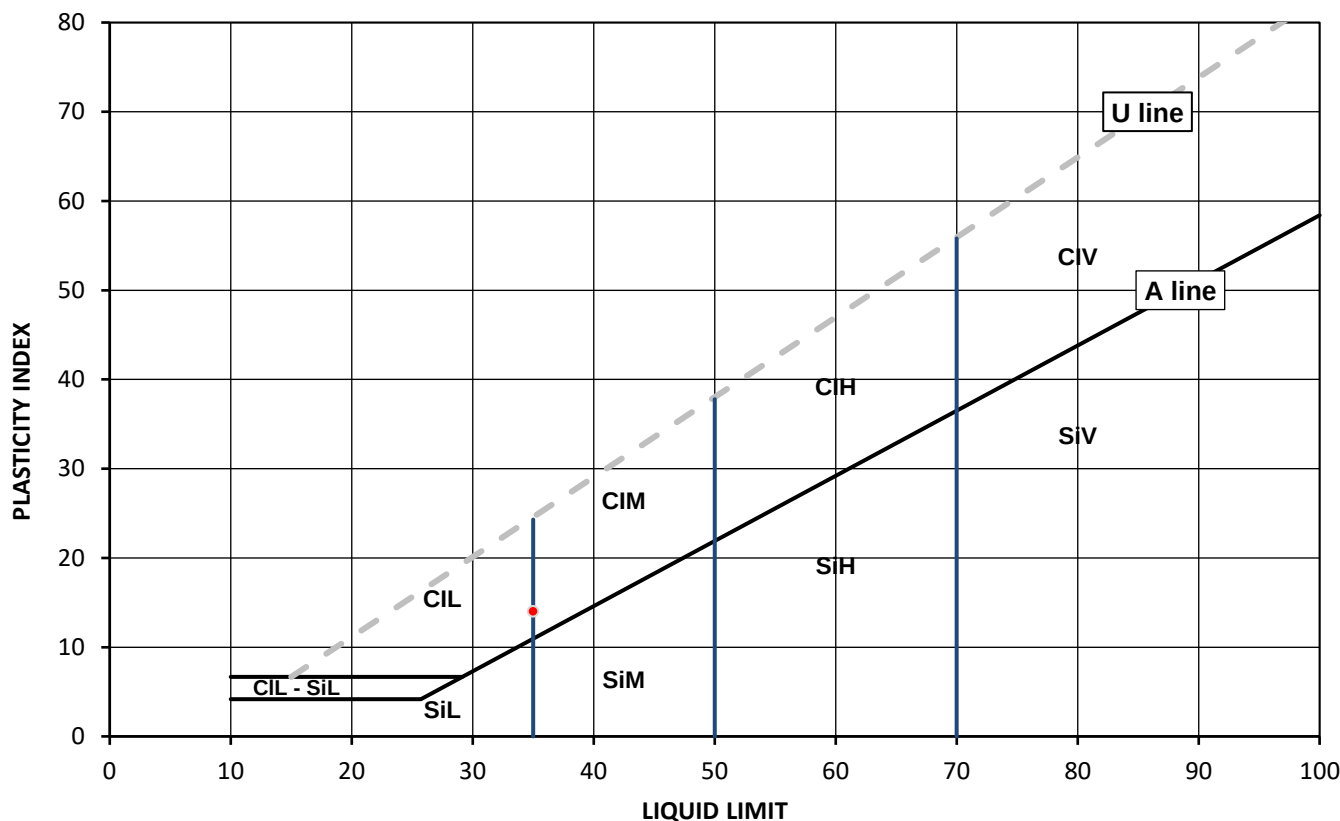
Test Results:

Laboratory Reference: 298005
Hole No.: ash fill 10
Sample Reference: 230824
Sample Description: Dark brown gravelly SAND

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
12.4	35	21	14	-0.64	1.64	38



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

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
		50 to 70
		exceeding 70
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group

Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp

Site Address: Victoria North

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

Client Reference: 101221

Job Number: 24-038507-1

Date Sampled: 23/08/2024

Date Received: 27/08/2024

Date Tested: 10/09/2024

Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL *	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m														
298001	ash fill 6	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL	Atterberg 4 Point	12.7	47	34	-	21	13	80g/30 deg	W / I			
298002	ash fill 7	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL	Atterberg 4 Point	12.7	39	35	-	20	15	80g/30 deg	W / I			
298003	ash fill 8	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL	Atterberg 4 Point	11.3	39	37	-	19	18	80g/30 deg	W / I			
298004	ash fill 9	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL	Atterberg 4 Point	13.9	42	37	-	21	16	80g/30 deg	W / I			
298005	ash fill 10	230824	Not Given	Not Given	B	Dark brown gravelly SAND	Atterberg 4 Point	12.4	38	35	-	21	14	80g/30 deg	W / I			

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

Comments:

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Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



SUMMARY REPORT
DETERMINATION OF WATER CONTENT

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041
Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
298001	ash fill 6	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL		12.7											
298002	ash fill 7	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL		12.7											
298003	ash fill 8	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL		11.3											
298004	ash fill 9	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL		13.9											
298005	ash fill 10	230824	Not Given	Not Given	B	Dark brown gravelly SAND		12.4											

Comments:

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Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

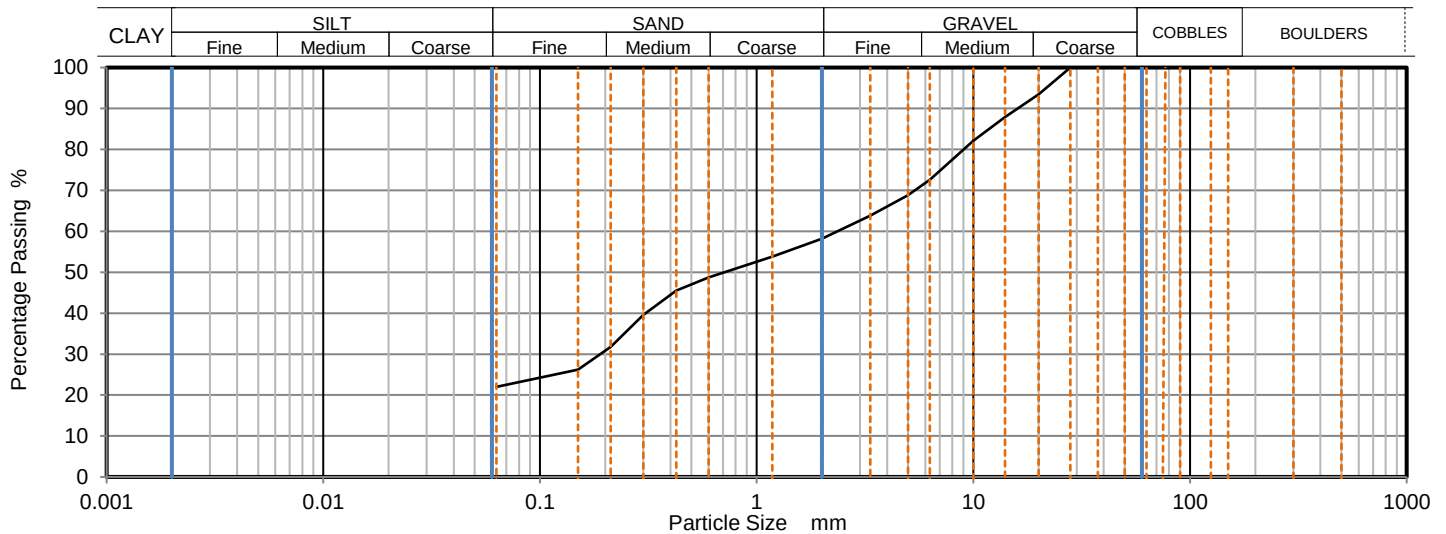
Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298001
Hole No.: ash fill 6
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	94		
14	88		
10	82		
6.3	73		
5	69		
3.35	64		
2	58		
1.18	54		
0.6	49		
0.425	46		
0.3	40		
0.212	32		
0.15	26		
0.063	22		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	42.00
Sand	36.00
Fines <0.063 mm	22.00

Grading Analysis		
D100	mm	28
D60	mm	2.36
D30	mm	0.189
D10	mm	
Uniformity Coefficient		37
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

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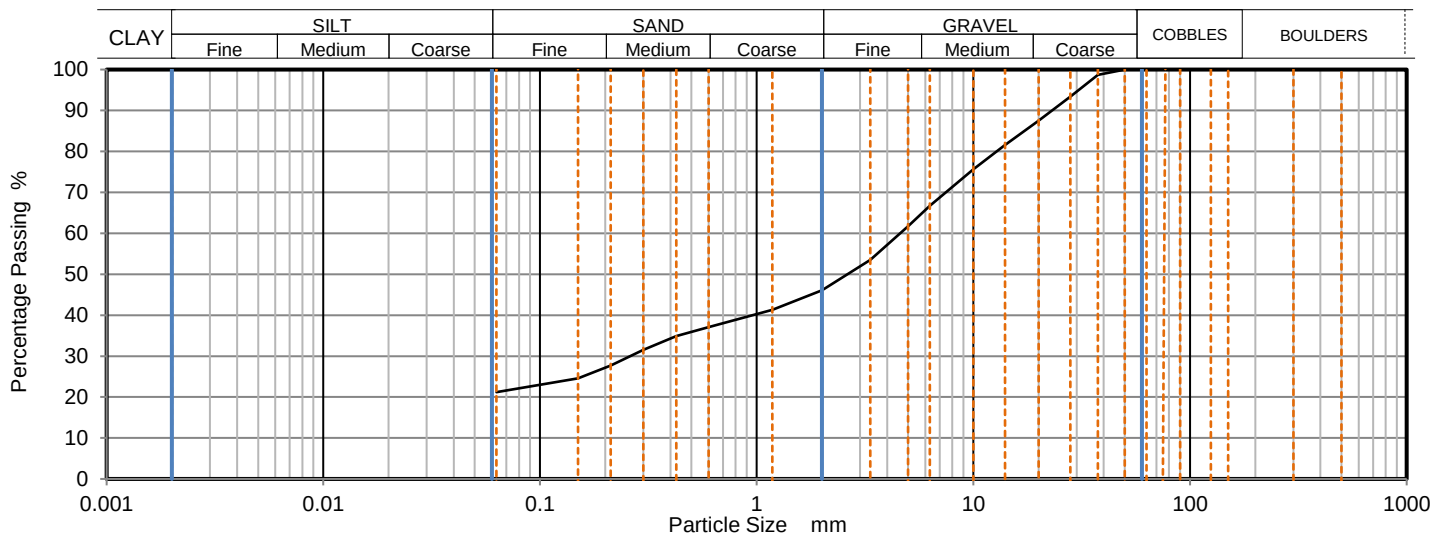
Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298002
Hole No.: ash fill 7
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	93		
20	88		
14	82		
10	76		
6.3	67		
5	62		
3.35	54		
2	46		
1.18	41		
0.6	37		
0.425	35		
0.3	32		
0.212	28		
0.15	25		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	54.00
Sand	25.00
Fines <0.063 mm	21.00

Grading Analysis		
D100	mm	50
D60	mm	4.61
D30	mm	0.262
D10	mm	
Uniformity Coefficient		73
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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



4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

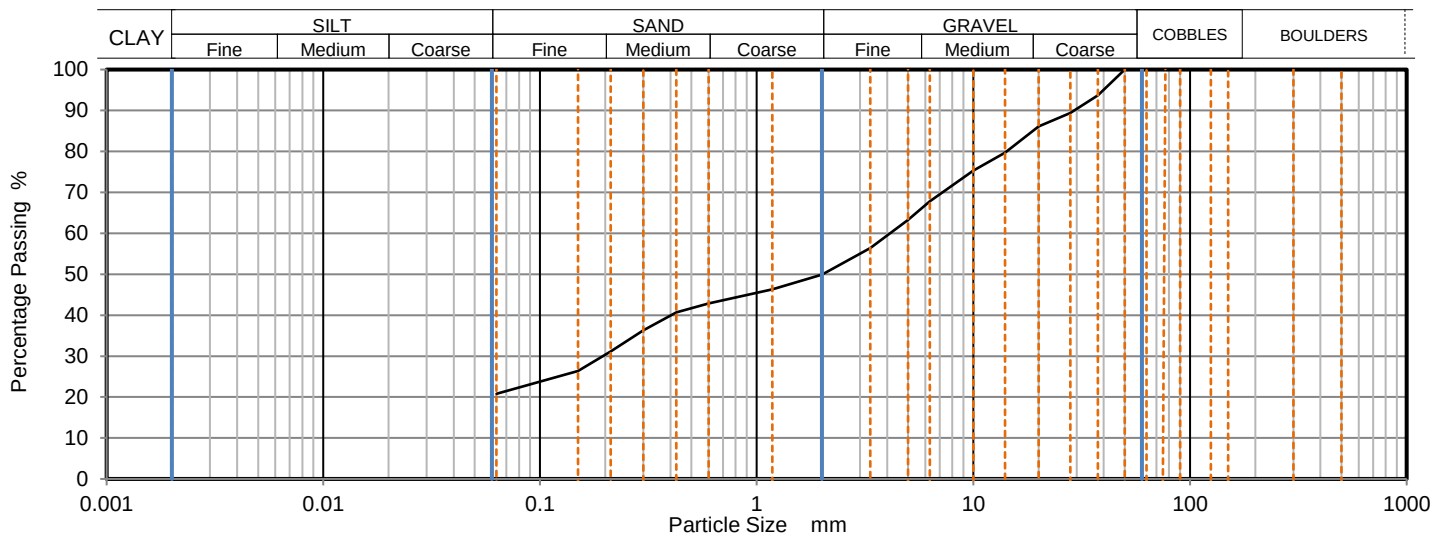
Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298003
Hole No.: ash fill 8
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	89		
20	86		
14	80		
10	75		
6.3	68		
5	63		
3.35	56		
2	50		
1.18	46		
0.6	43		
0.425	41		
0.3	36		
0.212	31		
0.15	26		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	50.00
Sand	29.00
Fines <0.063 mm	21.00

Grading Analysis		
D100	mm	50
D60	mm	4.12
D30	mm	0.196
D10	mm	
Uniformity Coefficient		65
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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DETERMINATION OF PARTICLE SIZE DISTRIBUTION

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

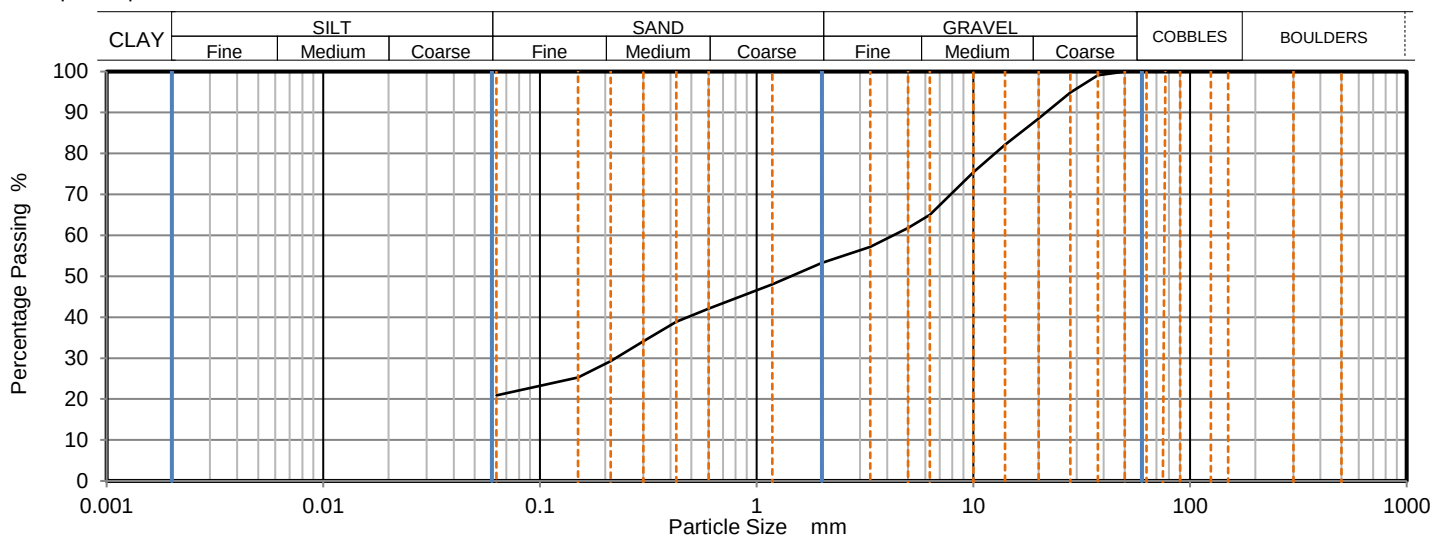
Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

Laboratory Reference: 298004
Hole No.: ash fill 9
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	95		
20	89		
14	82		
10	75		
6.3	65		
5	62		
3.35	57		
2	53		
1.18	48		
0.6	42		
0.425	39		
0.3	34		
0.212	29		
0.15	25		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	47.00
Sand	32.00
Fines <0.063 mm	21.00

Grading Analysis		
D100	mm	50
D60	mm	4.26
D30	mm	0.223
D10	mm	
Uniformity Coefficient		68
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

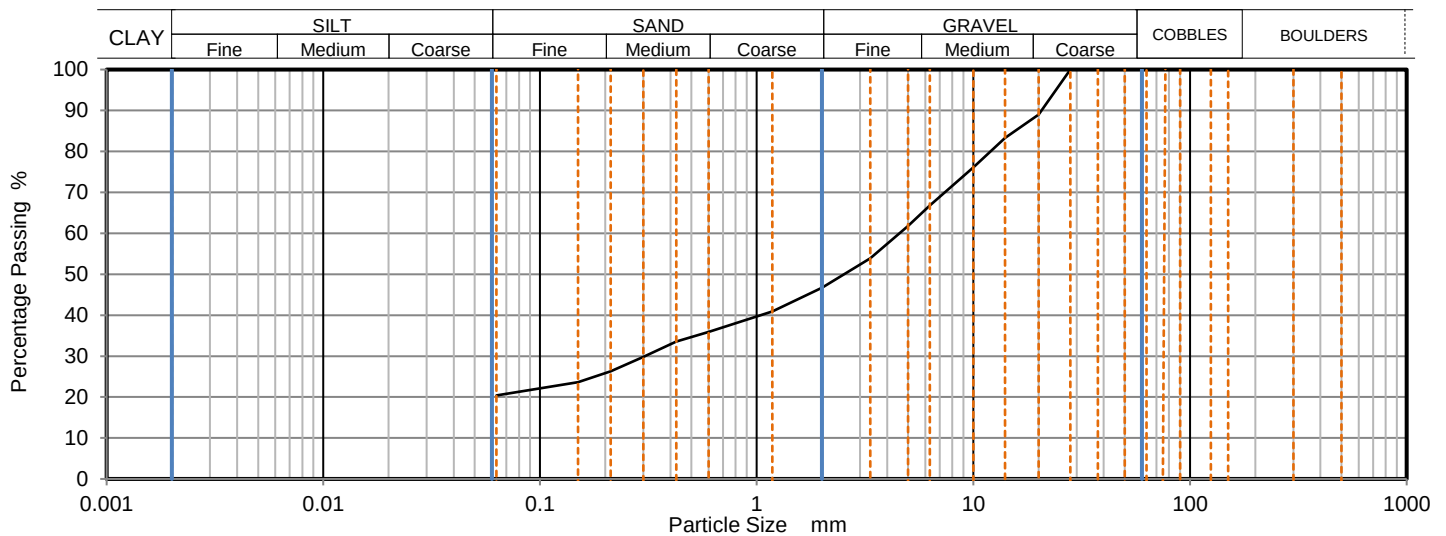
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-038507-1
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 298005
Hole No.: ash fill 10
Sample Reference: 230824
Sample Description: Dark brown gravelly SAND
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	89		
14	83		
10	76		
6.3	67		
5	62		
3.35	54		
2	47		
1.18	41		
0.6	36		
0.425	34		
0.3	30		
0.212	26		
0.15	24		
0.063	20		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	54.00
Sand	26.00
Fines <0.063 mm	20.00

Grading Analysis		
D100	mm	28
D60	mm	4.55
D30	mm	0.304
D10	mm	
Uniformity Coefficient		72
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

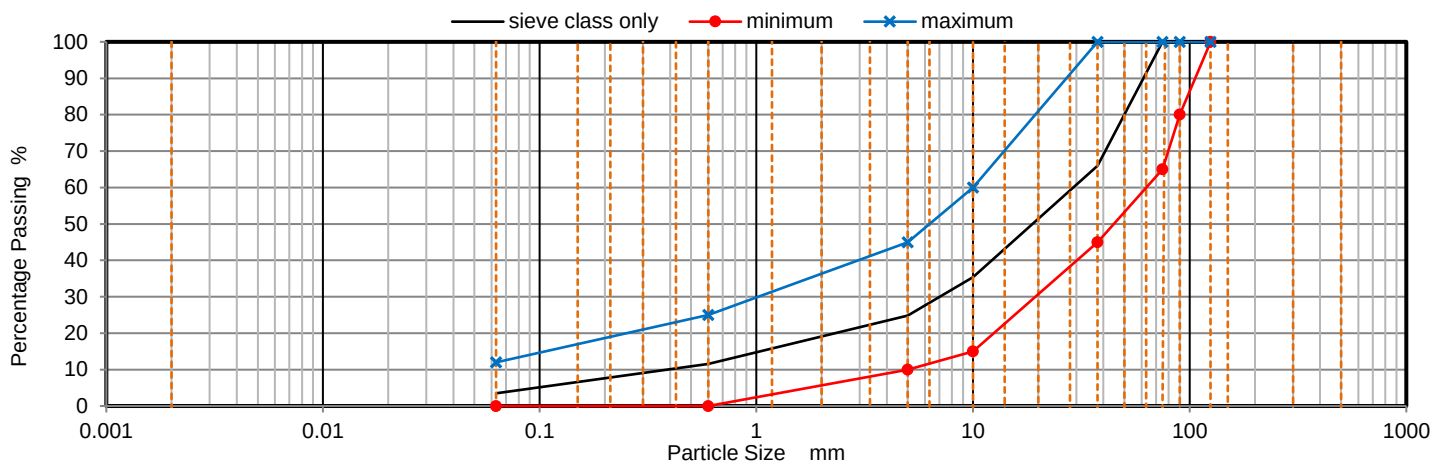
Client Reference: 101221
Job Number: 24-039018-1
Date Sampled: 28/08/2024
Date Received: 29/08/2024
Date Tested: 12/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 300344
Hole No.: 6F2 280824 A
Sample Reference: Not Given
Sample Description: Brown sandy GRAVEL with crushed concrete
Sample Preparation: Sample was quartered, oven dried at 108.7 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Material Type	
		6F2	
		Selected granular material	
Particle Size mm	% Passing	Material Specification	Pass or Fail
500	100		
300	100		
150	100		
125	100	100 - 100	PASS
90	100	80 - 100	PASS
75	100	65 - 100	PASS
63	92		
50	75		
37.5	66	45 - 100	PASS
28	59		
20	53		
14	44		
10	35	15 - 60	PASS
6.3	27		
5	25	10 - 45	PASS
3.35	21		
2	17		
1.18	14		
0.6	12	0 - 25	PASS
0.425	10		
0.3	9		
0.212	7		
0.15	5		
0.063	4	0 - 12	PASS

Uniformity Coefficient [Cu]		72
D60	mm	28.7
D10	mm	0.401

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Earthworks
Specification for Highway Works, Volume 1, Series 600, TABLE 6/2

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

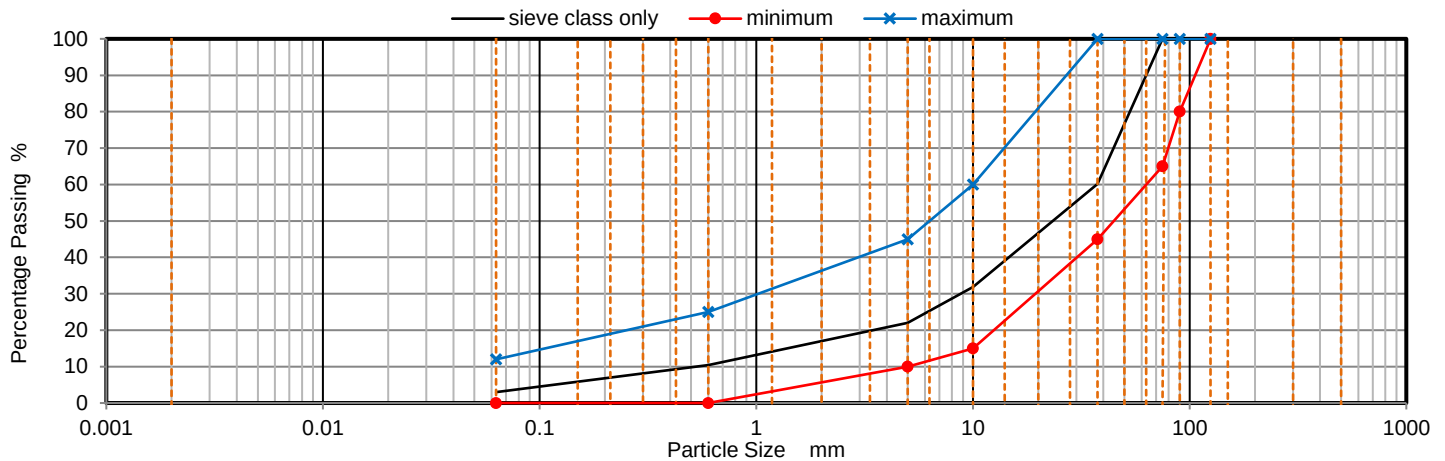
Client Reference: 101221
Job Number: 24-039018-1
Date Sampled: 28/08/2024
Date Received: 29/08/2024
Date Tested: 12/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 300345
Hole No.: 6F2 280824 B
Sample Reference: Not Given
Sample Description: Dark brown sandy GRAVEL
Sample Preparation: Sample was quartered, oven dried at 108.7 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Material Type	
		6F2	
		Selected granular material	
Particle Size mm	% Passing	Material Specification	Pass or Fail
500	100		
300	100		
150	100		
125	100	100 - 100	PASS
90	100	80 - 100	PASS
75	100	65 - 100	PASS
63	97		
50	76		
37.5	60	45 - 100	PASS
28	56		
20	47		
14	40		
10	32	15 - 60	PASS
6.3	25		
5	22	10 - 45	PASS
3.35	19		
2	16		
1.18	13		
0.6	10	0 - 25	PASS
0.425	9		
0.3	7		
0.212	6		
0.15	4		
0.063	3	0 - 12	PASS

Uniformity Coefficient [Cu]		68
D60	mm	37
D10	mm	0.541

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Earthworks
Specification for Highway Works, Volume 1, Series 600, TABLE 6/2

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park, Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

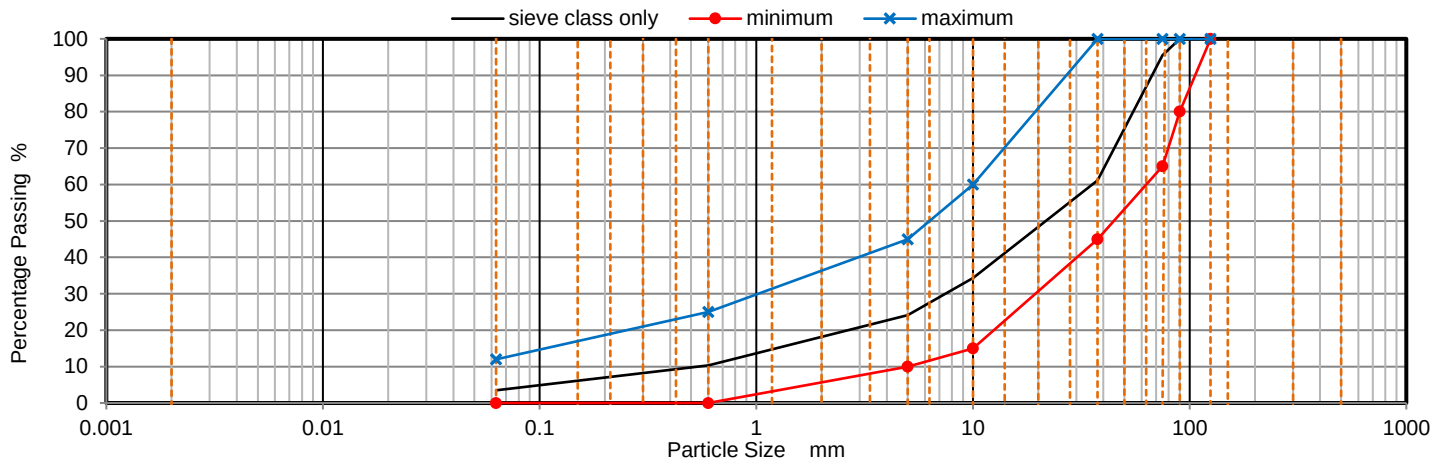
Client Reference: 101221
Job Number: 24-039018-1
Date Sampled: 28/08/2024
Date Received: 29/08/2024
Date Tested: 12/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 300346
Hole No.: 6F2 280824 C
Sample Reference: Not Given
Sample Description: Dark brown sandy GRAVEL with fragments of brick
Sample Preparation: Sample was quartered, oven dried at 108.7 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Material Type	
		6F2	
		Selected granular material	
Particle Size mm	% Passing	Material Specification	Pass or Fail
500	100		
300	100		
150	100		
125	100	100 - 100	PASS
90	100	80 - 100	PASS
75	96	65 - 100	PASS
63	87		
50	75		
37.5	61	45 - 100	PASS
28	57		
20	49		
14	41		
10	34	15 - 60	PASS
6.3	27		
5	24	10 - 45	PASS
3.35	20		
2	16		
1.18	13		
0.6	10	0 - 25	PASS
0.425	9		
0.3	7		
0.212	6		
0.15	4		
0.063	4	0 - 12	PASS

Uniformity Coefficient [Cu]		62
D60	mm	34.9
D10	mm	0.563

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Earthworks
Specification for Highway Works, Volume 1, Series 600, TABLE 6/2

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park, Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

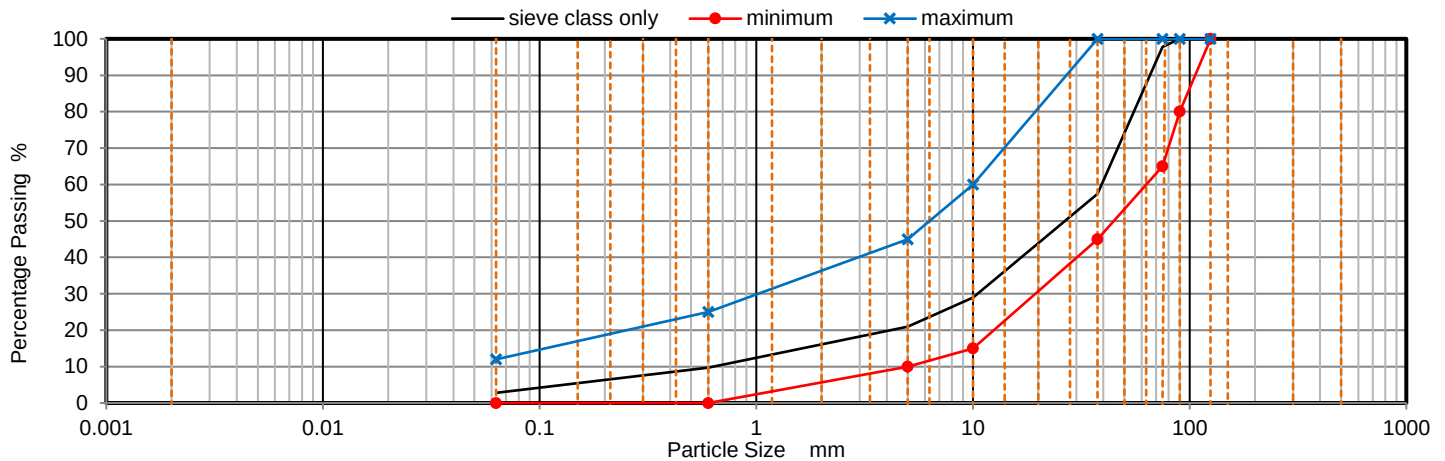
Client Reference: 101221
Job Number: 24-039018-1
Date Sampled: 28/08/2024
Date Received: 29/08/2024
Date Tested: 12/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 300347
Hole No.: 6F2 280824 D
Sample Reference: Not Given
Sample Description: Brown sandy GRAVEL with crushed concrete
Sample Preparation: Sample was quartered, oven dried at 108.7 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Material Type	
		6F2	
		Selected granular material	
Particle Size mm	% Passing	Material Specification	Pass or Fail
500	100		
300	100		
150	100		
125	100	100 - 100	PASS
90	100	80 - 100	PASS
75	98	65 - 100	PASS
63	89		
50	72		
37.5	57	45 - 100	PASS
28	51		
20	43		
14	36		
10	29	15 - 60	PASS
6.3	23		
5	21	10 - 45	PASS
3.35	18		
2	14		
1.18	12		
0.6	10	0 - 25	PASS
0.425	9		
0.3	7		
0.212	5		
0.15	4		
0.063	3	0 - 12	PASS

Uniformity Coefficient [Cu]		59
D60	mm	39.5
D10	mm	0.667

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Earthworks
Specification for Highway Works, Volume 1, Series 600, TABLE 6/2

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park, Reading, RG2 6UB

Client Reference: 101221
Job Number: 24-039018-1
Date Sampled: 28/08/2024
Date Received: 29/08/2024
Date Tested: 12/09/2024
Sampled By: Not Given

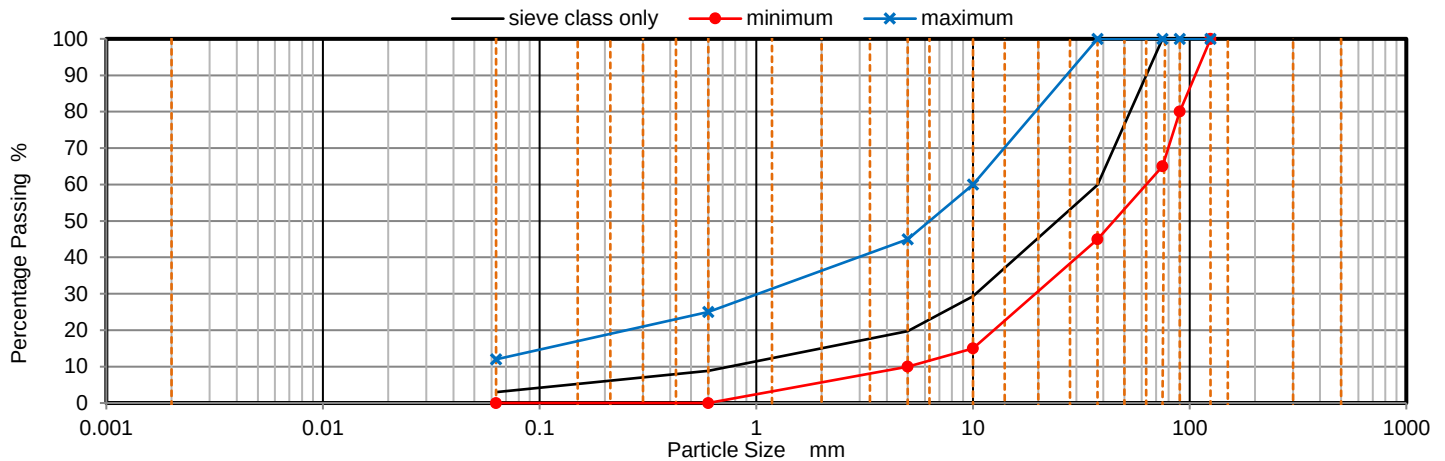
Contact: David Knapp
Site Address: Victoria North

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

Test Results:

Laboratory Reference: 300348
Hole No.: 6F2 280824 E
Sample Reference: Not Given
Sample Description: Brown sandy GRAVEL with crushed concrete
Sample Preparation: Sample was quartered, oven dried at 108.7 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Material Type	
		6F2	
		Selected granular material	
Particle Size mm	% Passing	Material Specification	Pass or Fail
500	100		
300	100		
150	100		
125	100	100 - 100	PASS
90	100	80 - 100	PASS
75	100	65 - 100	PASS
63	89		
50	68		
37.5	60	45 - 100	PASS
28	54		
20	45		
14	36		
10	29	15 - 60	PASS
6.3	22		
5	20	10 - 45	PASS
3.35	16		
2	13		
1.18	11		
0.6	9	0 - 25	PASS
0.425	8		
0.3	7		
0.212	5		
0.15	4		
0.063	3	0 - 12	PASS

Uniformity Coefficient [Cu]		41
D60	mm	37.7
D10	mm	0.92

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Earthworks
Specification for Highway Works, Volume 1, Series 600, TABLE 6/2

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

TEST CERTIFICATE

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

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB

Client: Provectus Group
 Client Address: 200 Brook Drive, Green Park,
 Reading, RG2 6UB

Contact: David Knapp
 Site Address: Victoria North

Client Reference: 101221
 Job Number: 24-038507-2
 Date Sampled: 23/08/2024
 Date Received: 27/08/2024
 Date Tested: 10/09/2024
 Sampled By: Not Given

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

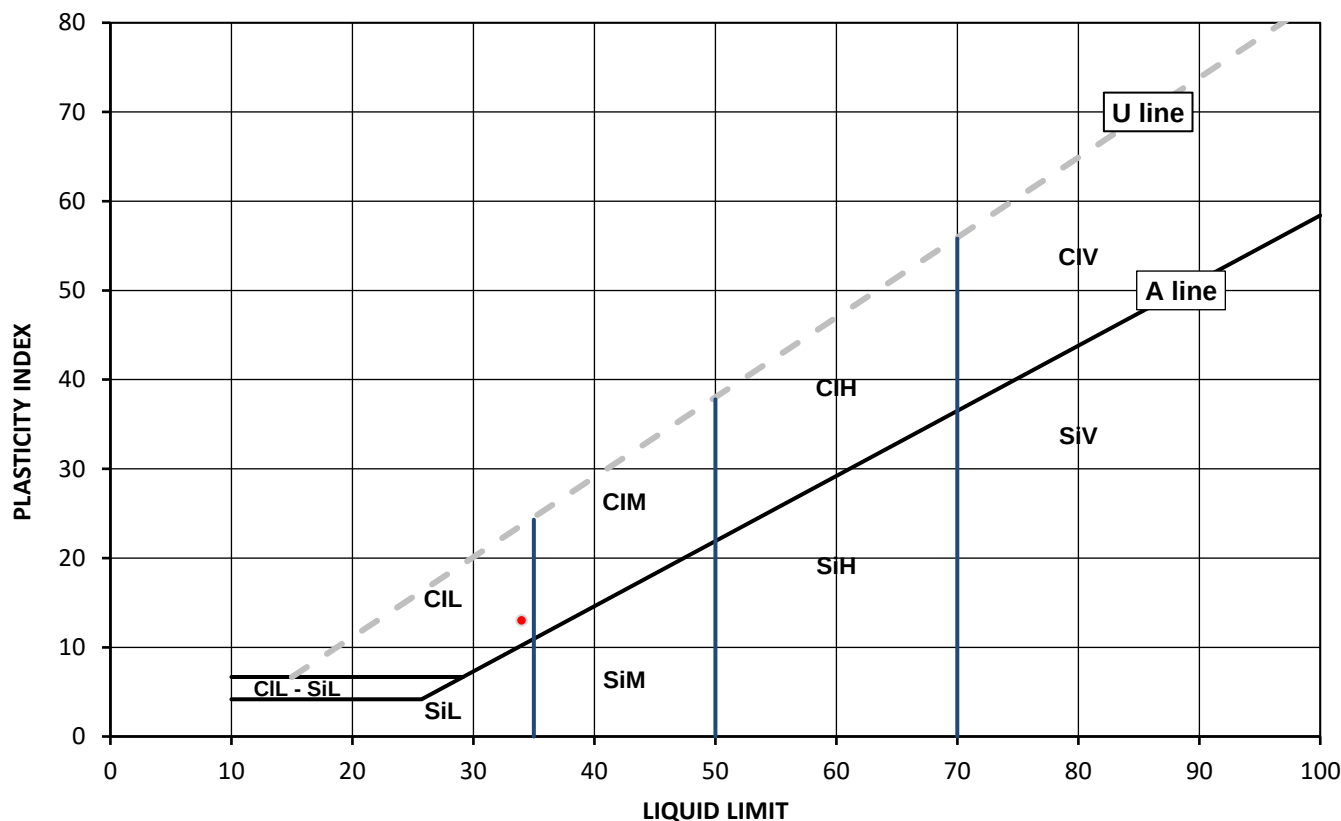
Test Results:

Laboratory Reference: 298001
 Hole No.: ash fill 6
 Sample Reference: 230824
 Sample Description: Dark grey very sandy very clayey GRAVEL

Depth Top [m]: Not Given
 Depth Base [m]: Not Given
 Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
12.7	34	21	13	-0.62	1.62	47



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Monika Siewior
 Reporting Specialist

for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

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

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB

Client: Provectus Group
 Client Address: 200 Brook Drive, Green Park,
 Reading, RG2 6UB

Contact: David Knapp
 Site Address: Victoria North

Client Reference: 101221
 Job Number: 24-038507-2
 Date Sampled: 23/08/2024
 Date Received: 27/08/2024
 Date Tested: 10/09/2024
 Sampled By: Not Given

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

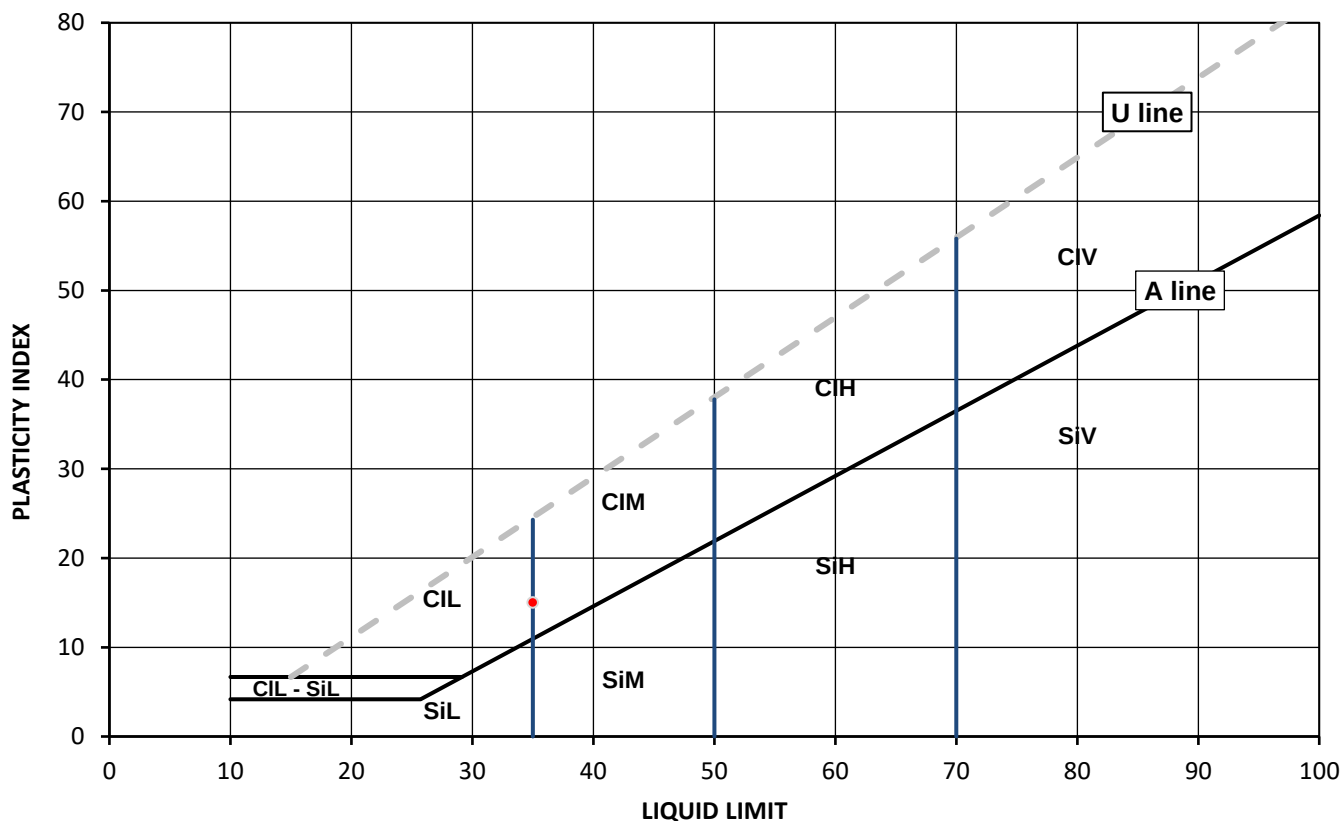
Test Results:

Laboratory Reference: 298002
 Hole No.: ash fill 7
 Sample Reference: 230824
 Sample Description: Dark brown very sandy very clayey GRAVEL

Depth Top [m]: Not Given
 Depth Base [m]: Not Given
 Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
12.7	35	20	15	-0.47	1.47	39



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

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Monika Siewior
 Reporting Specialist

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

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

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB

Client: Provectus Group
 Client Address: 200 Brook Drive, Green Park,
 Reading, RG2 6UB
 Contact: David Knapp
 Site Address: Victoria North

Client Reference: 101221
 Job Number: 24-038507-2
 Date Sampled: 23/08/2024
 Date Received: 27/08/2024
 Date Tested: 10/09/2024
 Sampled By: Not Given

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

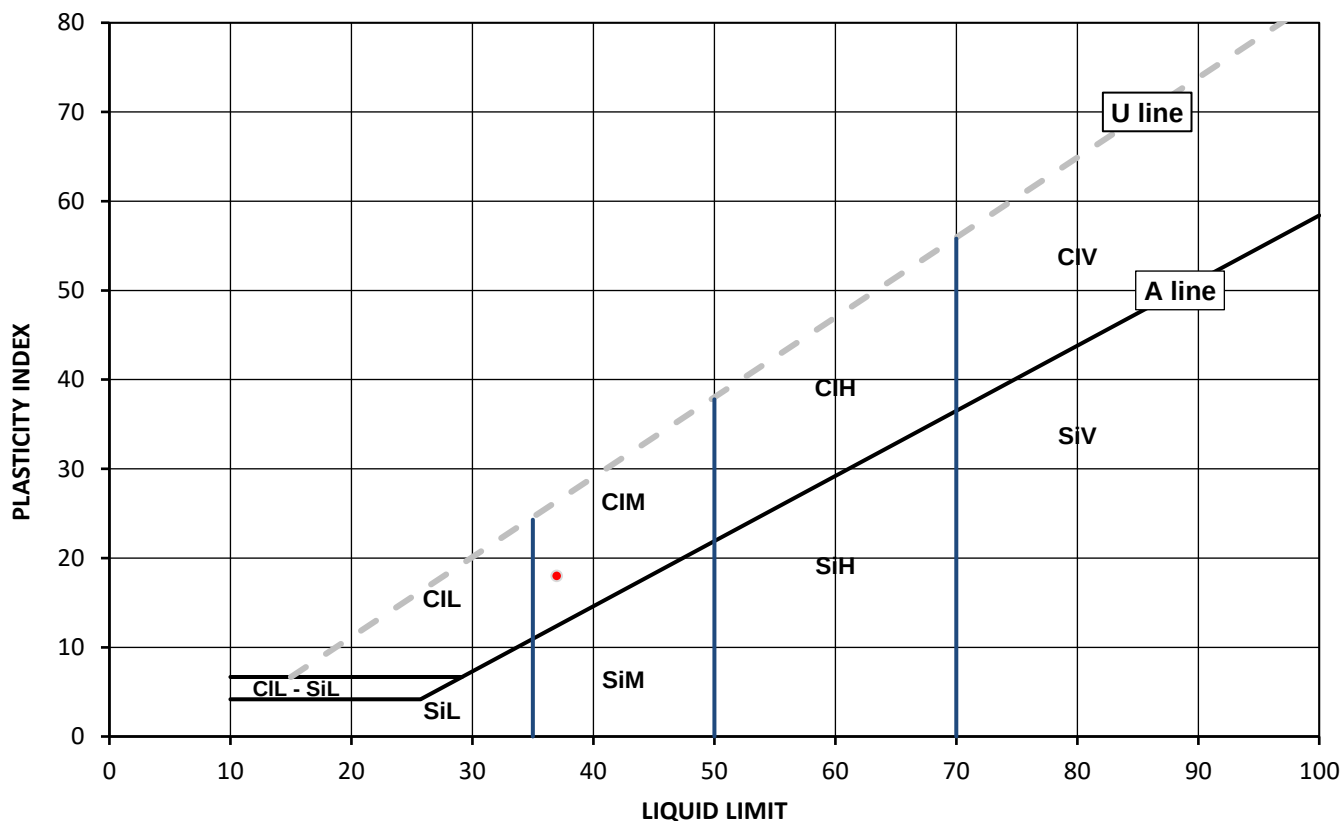
Test Results:

Laboratory Reference: 298003
 Hole No.: ash fill 8
 Sample Reference: 230824
 Sample Description: Dark brown very sandy very clayey GRAVEL

Depth Top [m]: Not Given
 Depth Base [m]: Not Given
 Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
11.3	37	19	18	-0.44	1.44	39



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

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Signed:

Monika Siewior
 Reporting Specialist

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

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

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB

Client: Provectus Group
 Client Address: 200 Brook Drive, Green Park,
 Reading, RG2 6UB

Contact: David Knapp
 Site Address: Victoria North

Client Reference: 101221
 Job Number: 24-038507-2
 Date Sampled: 23/08/2024
 Date Received: 27/08/2024
 Date Tested: 10/09/2024
 Sampled By: Not Given

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

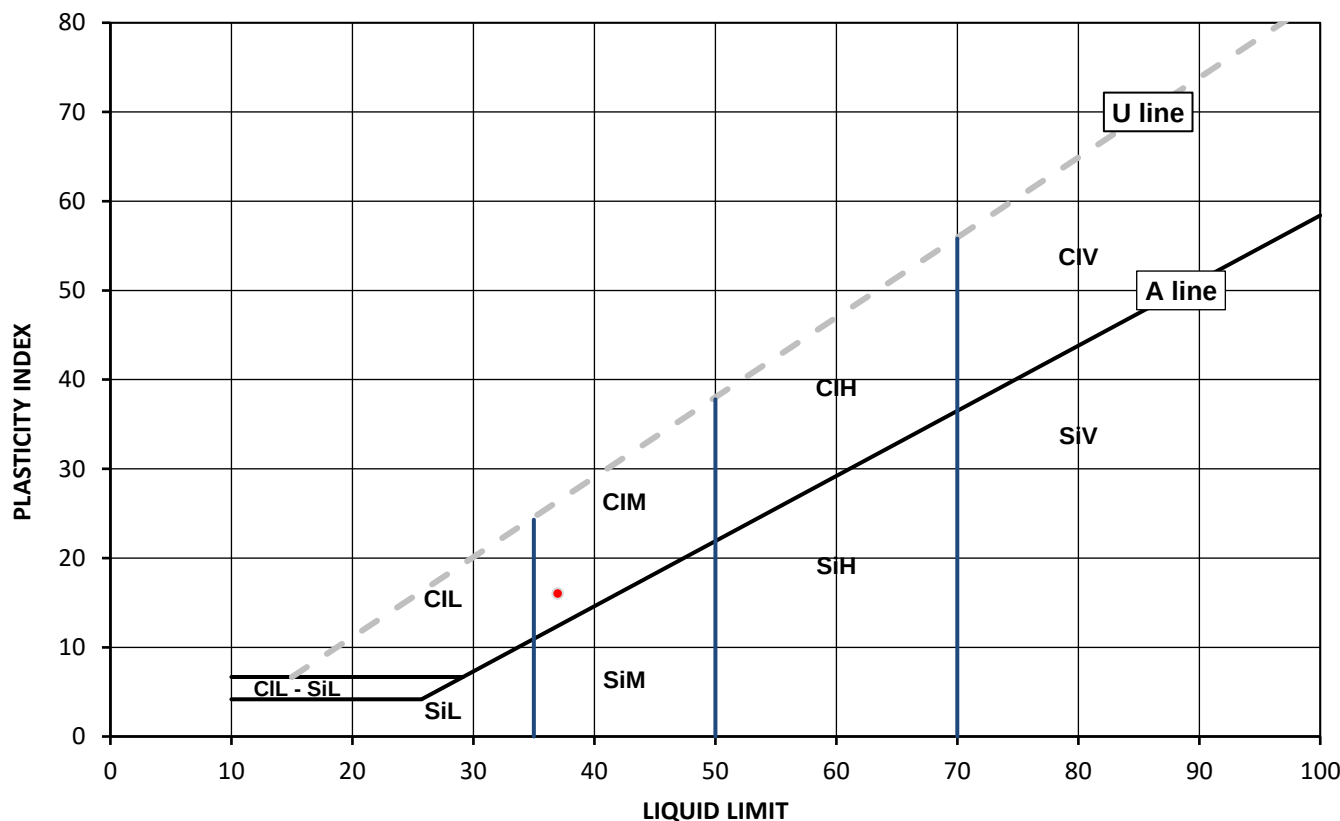
Test Results:

Laboratory Reference: 298004
 Hole No.: ash fill 9
 Sample Reference: 230824
 Sample Description: Dark grey very sandy very clayey GRAVEL

Depth Top [m]: Not Given
 Depth Base [m]: Not Given
 Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
13.9	37	21	16	-0.44	1.44	42



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

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Monika Siewior
 Reporting Specialist

for and on behalf of i2 Analytical Ltd

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

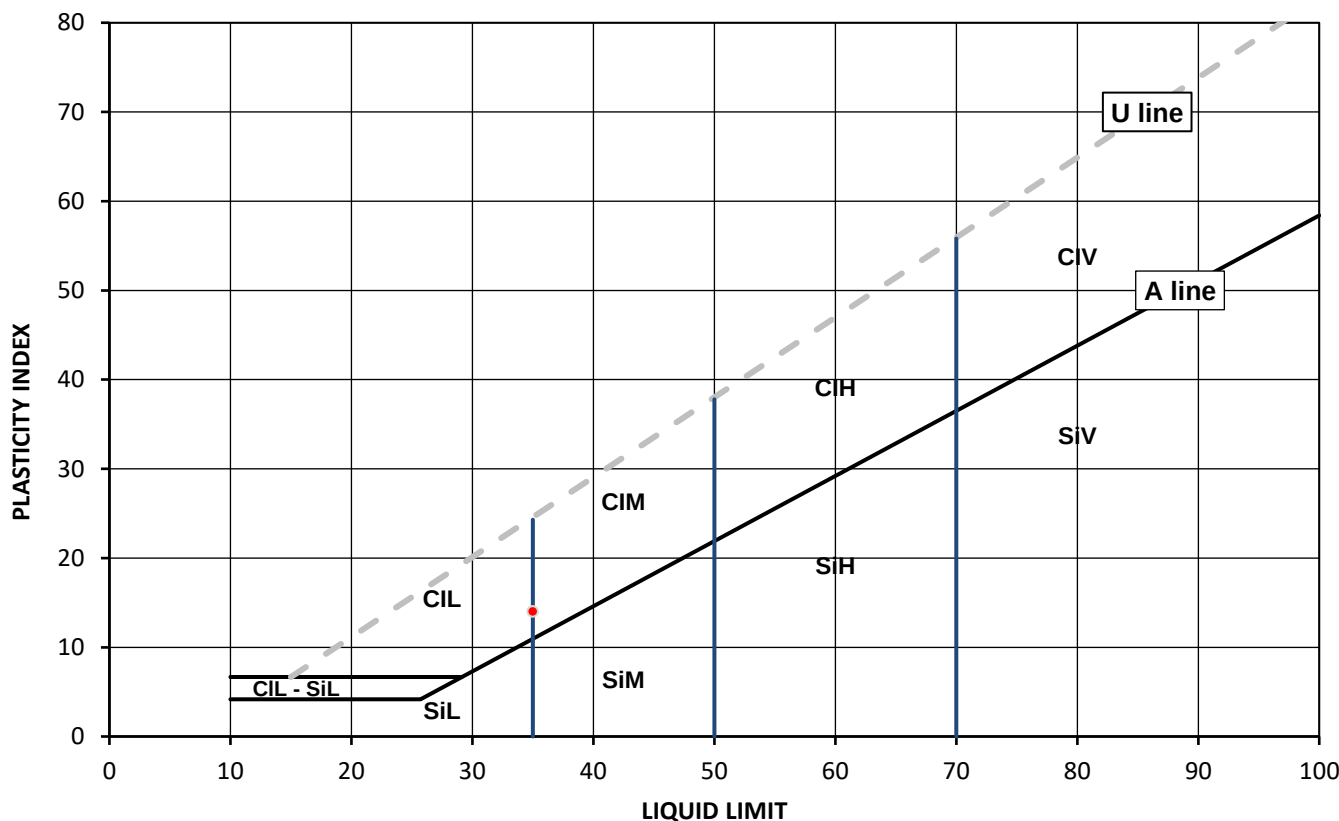
Test Results:

Laboratory Reference: 298005
Hole No.: ash fill 10
Sample Reference: 230824
Sample Description: Dark brown gravelly SAND

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
12.4	35	21	14	-0.64	1.64	38



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

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Signed:

Monika Siewior
Reporting Specialist

for and on behalf of i2 Analytical Ltd



SUMMARY REPORT
SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: Provectus Group
Client Address: 200 Brook Drive, Green Park, Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

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

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m														
298001	ash fill 6	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL	Atterberg 4 Point	12.7	47	34	-	21	13	80g/30 deg	W / I			
298002	ash fill 7	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL	Atterberg 4 Point	12.7	39	35	-	20	15	80g/30 deg	W / I			
298003	ash fill 8	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL	Atterberg 4 Point	11.3	39	37	-	19	18	80g/30 deg	W / I			
298004	ash fill 9	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL	Atterberg 4 Point	13.9	42	37	-	21	16	80g/30 deg	W / I			
298005	ash fill 10	230824	Not Given	Not Given	B	Dark brown gravelly SAND	Atterberg 4 Point	12.4	38	35	-	21	14	80g/30 deg	W / I			

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

Comments:

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Signed: 
Monika Stewior
Reporting Specialist

for and on behalf of i2 Analytical Ltd



SUMMARY REPORT
DETERMINATION OF WATER CONTENT

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

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top	Depth Base	Type														
			m	m				%											
298001	ash fill 6	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL		12.7											
298002	ash fill 7	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL		12.7											
298003	ash fill 8	230824	Not Given	Not Given	B	Dark brown very sandy very clayey GRAVEL		11.3											
298004	ash fill 9	230824	Not Given	Not Given	B	Dark grey very sandy very clayey GRAVEL		13.9											
298005	ash fill 10	230824	Not Given	Not Given	B	Dark brown gravelly SAND		12.4											

Comments:

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

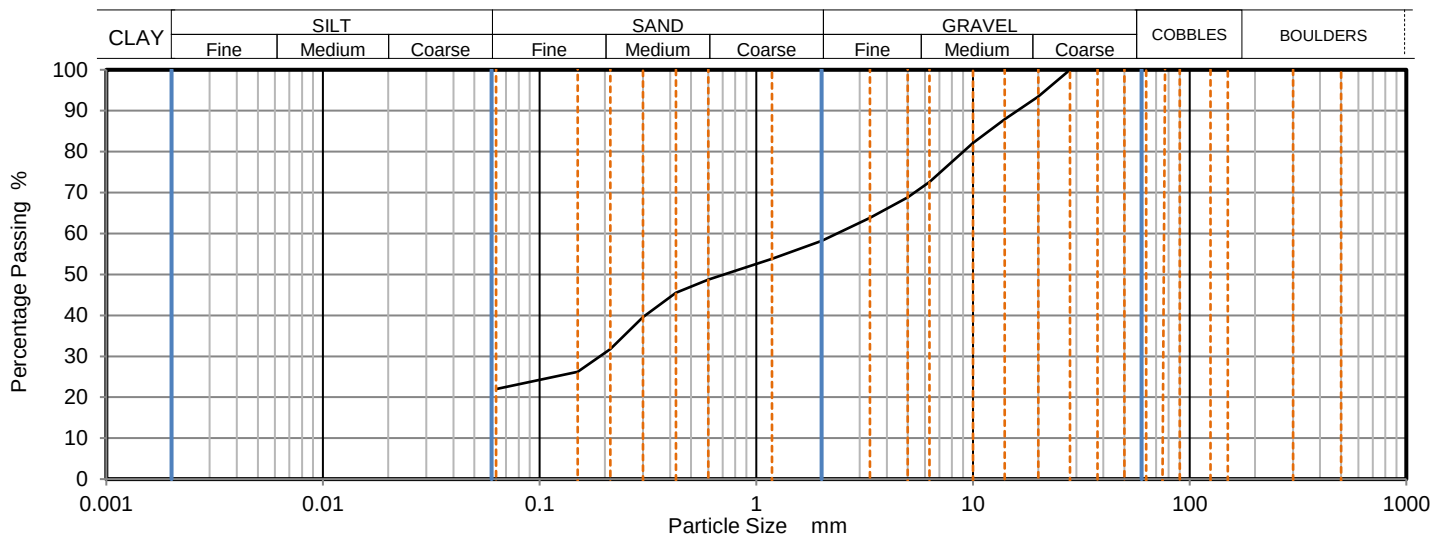
Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298001
Hole No.: ash fill 6
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	94		
14	88		
10	82		
6.3	73		
5	69		
3.35	64		
2	58		
1.18	54		
0.6	49		
0.425	46		
0.3	40		
0.212	32		
0.15	26		
0.063	22		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	42.00
Sand	36.00
Fines <0.063 mm	22.00

Grading Analysis		
D100	mm	28
D60	mm	2.36
D30	mm	0.189
D10	mm	
Uniformity Coefficient		37
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

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Signed:

Monika Siewior
Reporting Specialist

for and on behalf of i2 Analytical Ltd

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park, Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

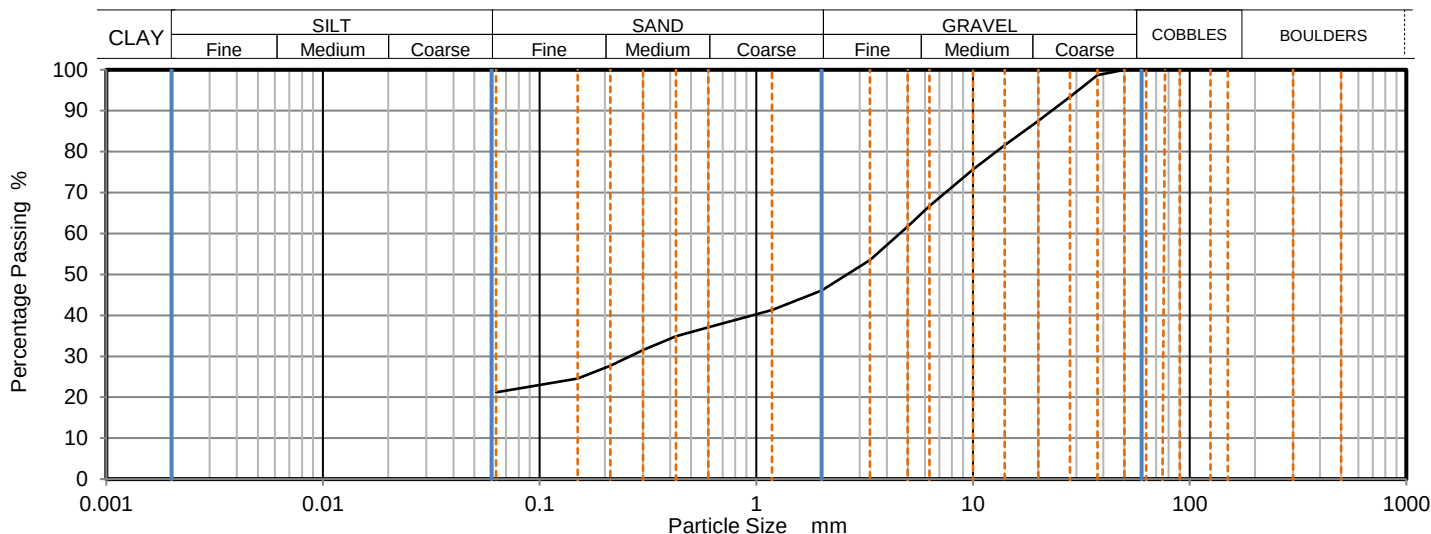
Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298002
Hole No.: ash fill 7
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	93		
20	88		
14	82		
10	76		
6.3	67		
5	62		
3.35	54		
2	46		
1.18	41		
0.6	37		
0.425	35		
0.3	32		
0.212	28		
0.15	25		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	54.00
Sand	25.00
Fines <0.063 mm	21.00

Grading Analysis	
D100	mm 50
D60	mm 4.61
D30	mm 0.262
D10	mm
Uniformity Coefficient	73
Curvature Coefficient	

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

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Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

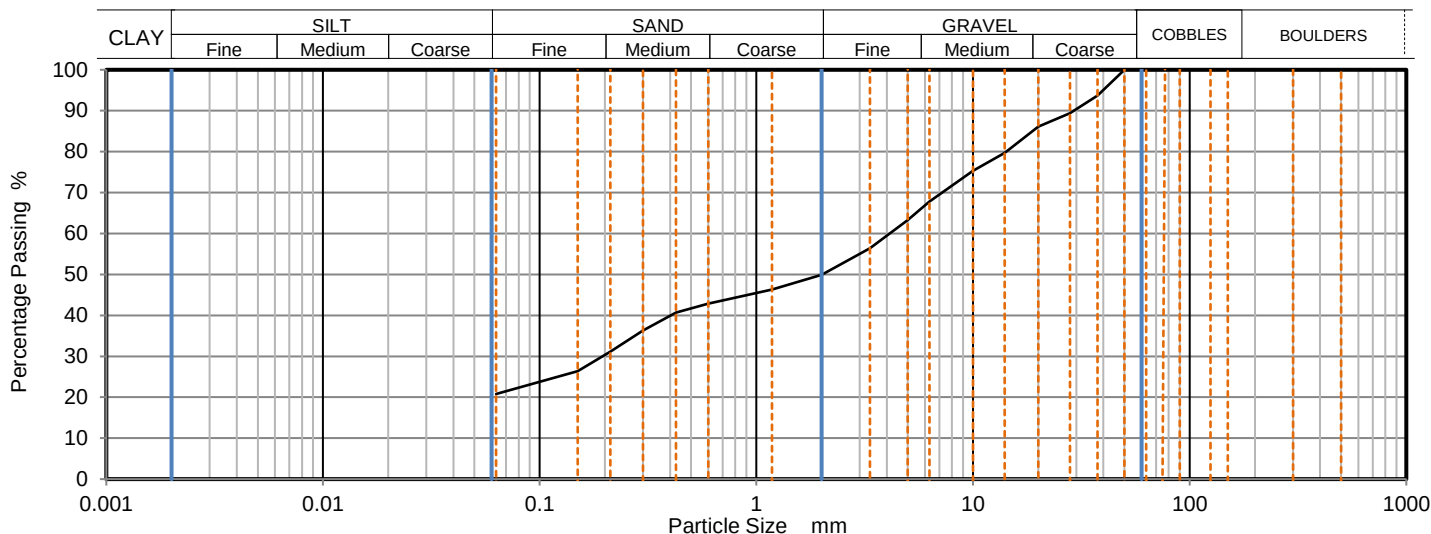
Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298003
Hole No.: ash fill 8
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	89		
20	86		
14	80		
10	75		
6.3	68		
5	63		
3.35	56		
2	50		
1.18	46		
0.6	43		
0.425	41		
0.3	36		
0.212	31		
0.15	26		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	50.00
Sand	29.00
Fines <0.063 mm	21.00

Grading Analysis		
D100	mm	50
D60	mm	4.12
D30	mm	0.196
D10	mm	
Uniformity Coefficient		65
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

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Reporting Specialist

for and on behalf of i2 Analytical Ltd

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park, Reading, RG2 6UB
Contact: David Knapp
Site Address: Victoria North

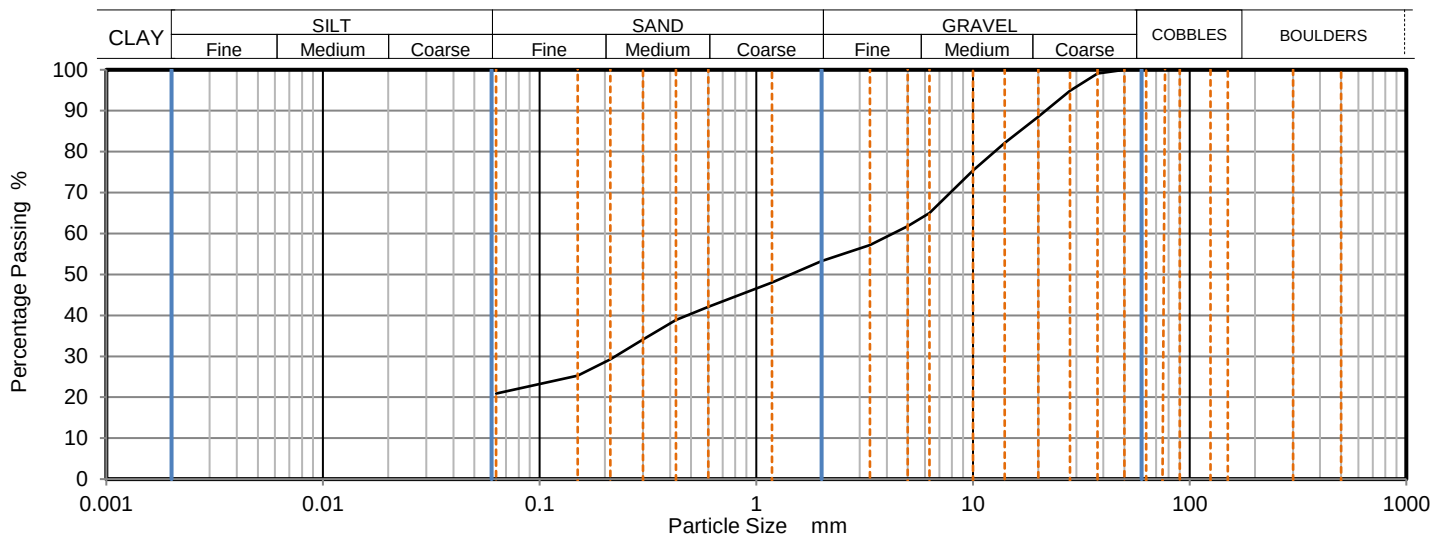
Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298004
Hole No.: ash fill 9
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	95		
20	89		
14	82		
10	75		
6.3	65		
5	62		
3.35	57		
2	53		
1.18	48		
0.6	42		
0.425	39		
0.3	34		
0.212	29		
0.15	25		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	47.00
Sand	32.00
Fines <0.063 mm	21.00

Grading Analysis		
D100	mm	50
D60	mm	4.26
D30	mm	0.223
D10	mm	
Uniformity Coefficient		68
Curvature Coefficient		

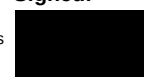
Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

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Signed:



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Reporting Specialist

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Contact: David Knapp
Site Address: Victoria North

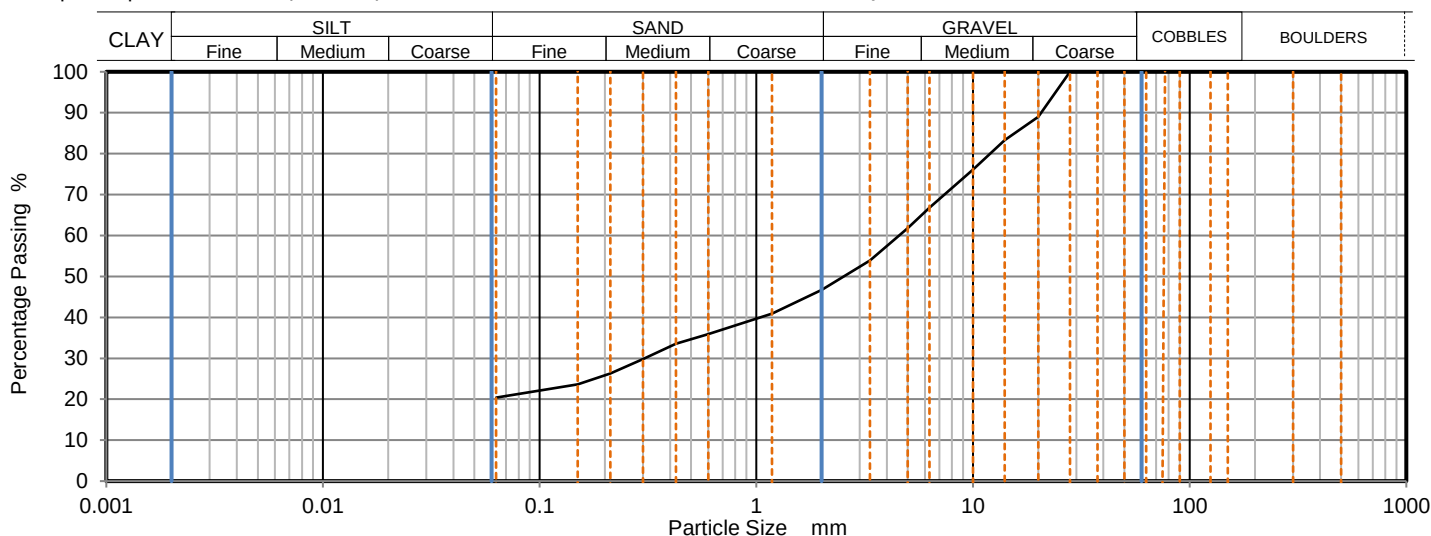
Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 10/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 298005
Hole No.: ash fill 10
Sample Reference: 230824
Sample Description: Dark brown gravelly SAND
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	89		
14	83		
10	76		
6.3	67		
5	62		
3.35	54		
2	47		
1.18	41		
0.6	36		
0.425	34		
0.3	30		
0.212	26		
0.15	24		
0.063	20		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	54.00
Sand	26.00
Fines <0.063 mm	20.00

Grading Analysis		
D100	mm	28
D60	mm	4.55
D30	mm	0.304
D10	mm	
Uniformity Coefficient		72
Curvature Coefficient		

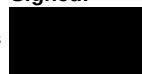
Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

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Signed:



Monika Siewior
Reporting Specialist

for and on behalf of i2 Analytical Ltd



4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

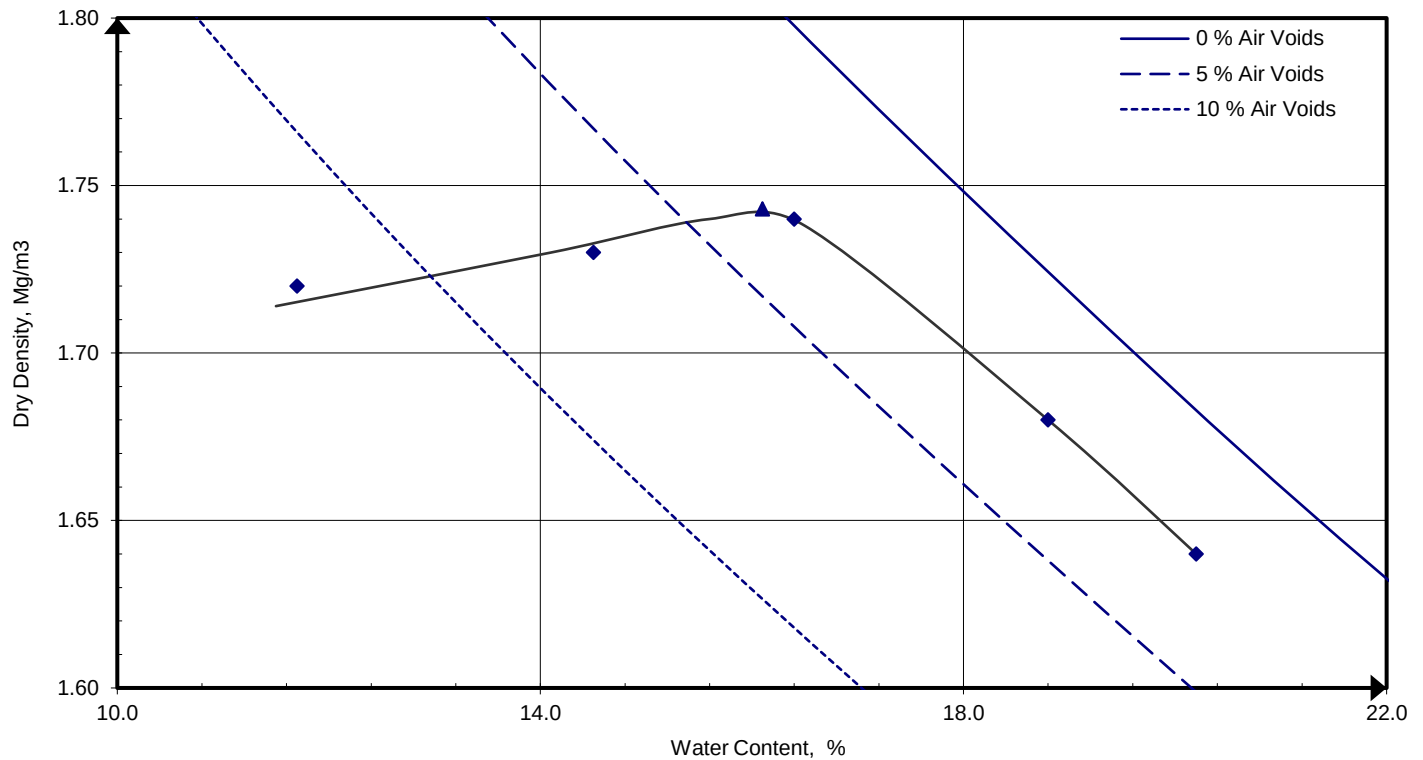
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 19/09/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 298001
Hole No.: ash fill 6
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Compaction Point No.	1	2	3	4	5	
Water Content	%	11.7	14.5	16.4	18.8	20.2
Dry Density	Mg/m³	1.72	1.73	1.74	1.68	1.64

Grading zone	3
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	6
Particle Density - Assumed	Mg/m³	2.55
As received Water Content	%	13
Maximum Dry Density	Mg/m³	1.74

Optimum Water Content	%	16
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Remarks: Replaces Analytical Report Number 24-038507, issue no 1; Additional results of Compaction Light

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

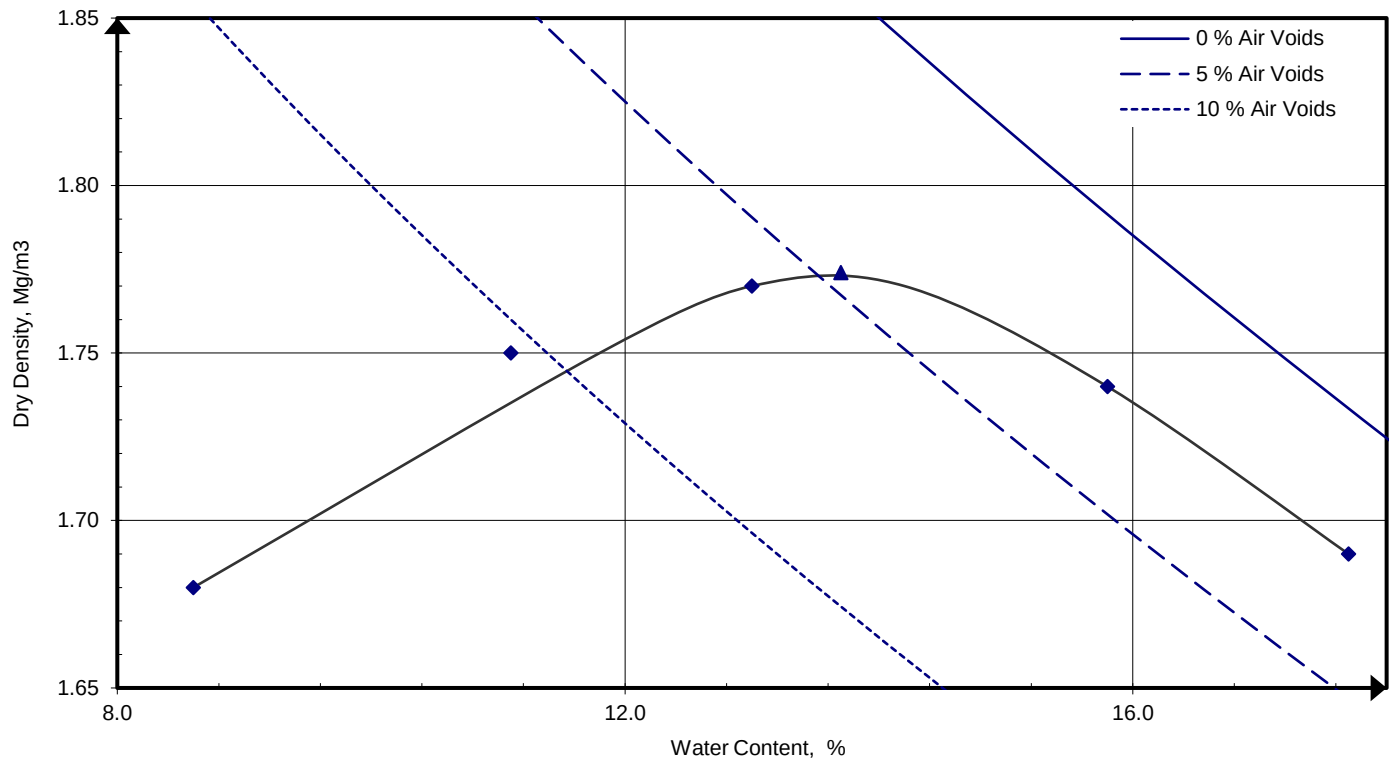
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 18/09/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 298002
Hole No.: ash fill 7
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Compaction Point No.	1	2	3	4	5	
Water Content	%	8.6	11.1	13.0	15.8	17.7
Dry Density	Mg/m³	1.68	1.75	1.77	1.74	1.69

Grading zone	4
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	2
Material Retained on 20.0 mm Sieve	%	13
Particle Density - Assumed	Mg/m³	2.50
As received Water Content	%	13
Maximum Dry Density	Mg/m³	1.77

Optimum Water Content	%	14
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Remarks: Replaces Analytical Report Number 24-038507, issue no 1; Additional results of Compaction Light

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

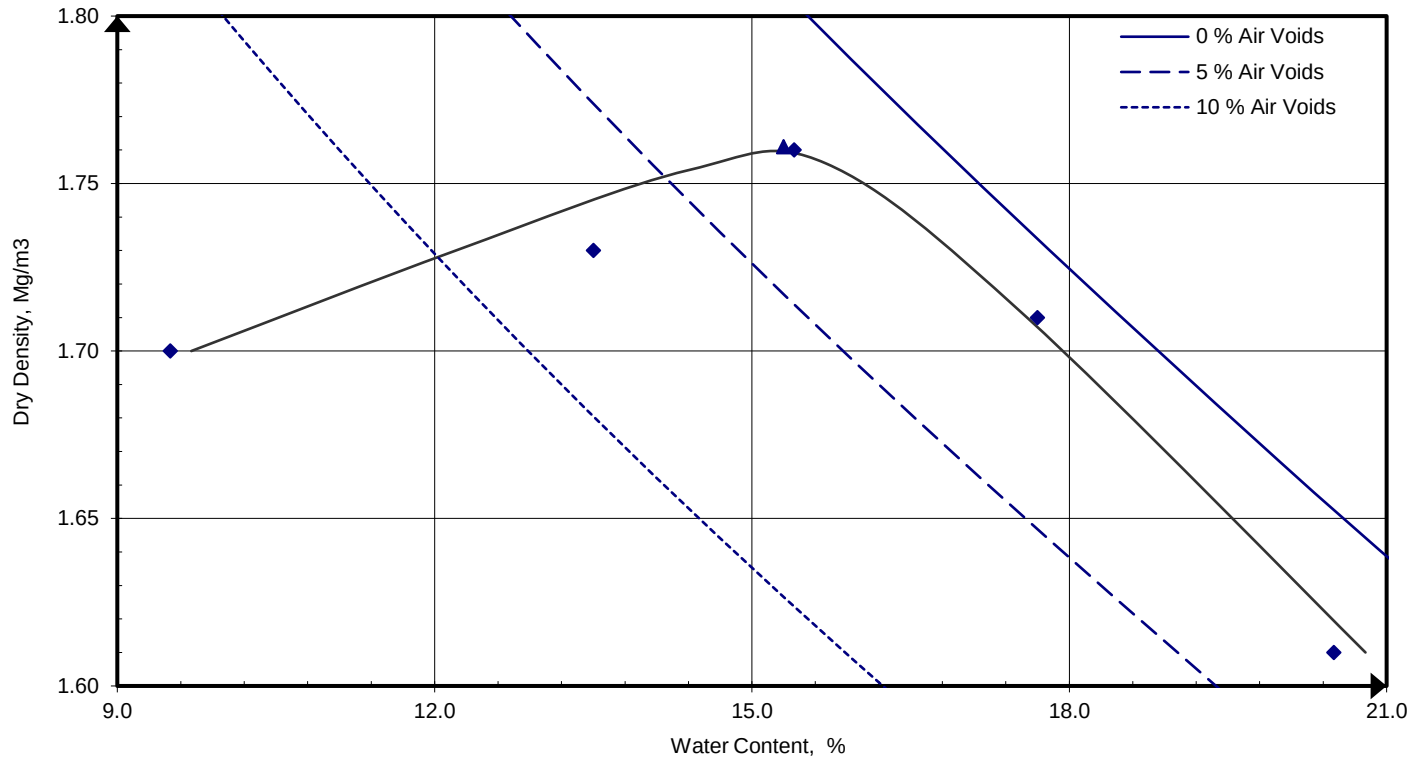
Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UBContact: David Knapp
Site Address: Victoria NorthClient Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 18/09/2024
Sampled By: Not Given

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

Test Results:Laboratory Reference: 298003
Hole No.: ash fill 8
Sample Reference: 230824
Sample Description: Dark brown very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

Compaction Point No.	1	2	3	4	5	
Water Content	%	9.5	13.5	15.4	17.7	20.5
Dry Density	Mg/m³	1.70	1.73	1.76	1.71	1.61

Grading zone	4
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	3
Material Retained on 20.0 mm Sieve	%	11
Particle Density - Assumed	Mg/m³	2.50
As received Water Content	%	11
Maximum Dry Density	Mg/m³	1.76

Optimum Water Content	%	15
-----------------------	---	----

Remarks: Replaces Analytical Report Number 24-038507, issue no 1; Additional results of Compaction Light

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

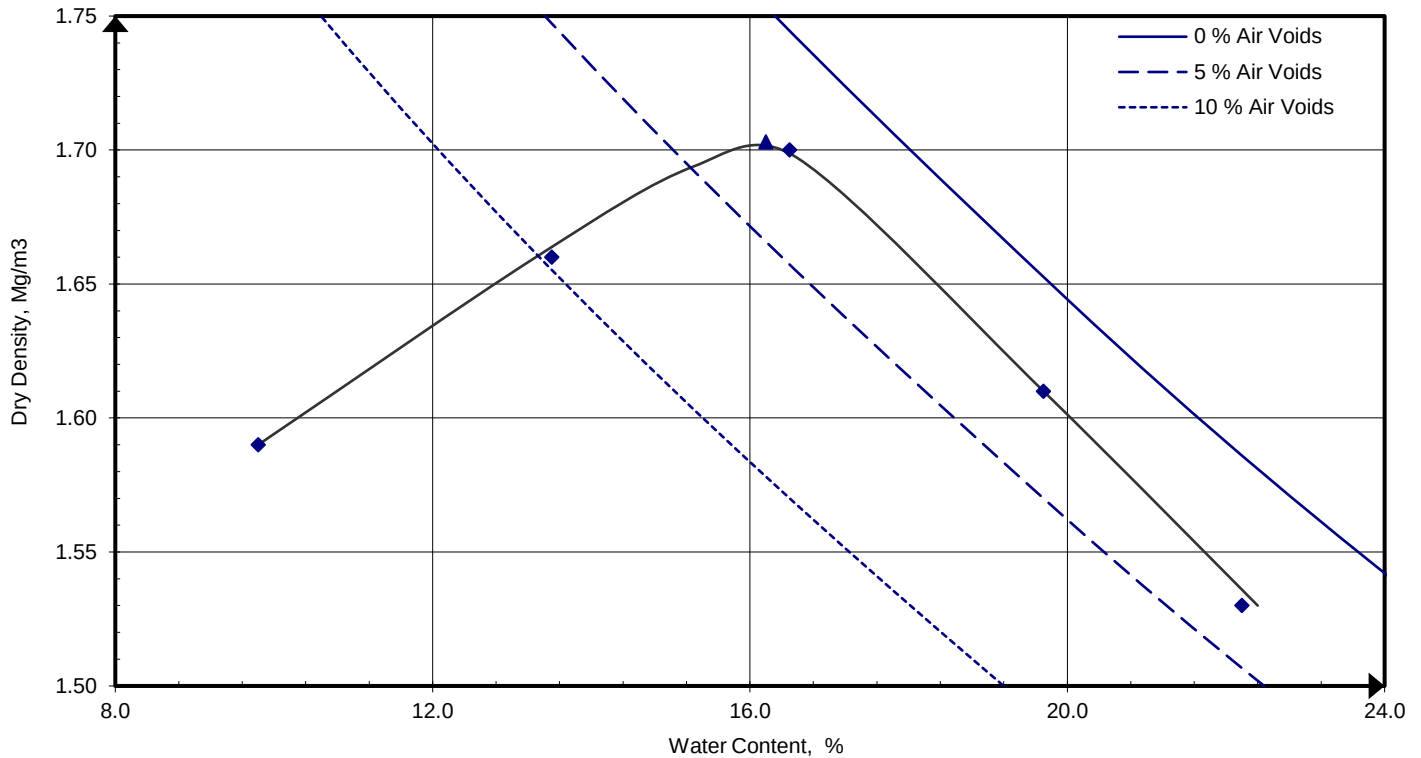
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 18/09/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 298004
Hole No.: ash fill 9
Sample Reference: 230824
Sample Description: Dark grey very sandy very clayey GRAVEL
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Compaction Point No.	1	2	3	4	5	
Water Content	%	9.8	13.5	16.5	19.7	22.2
Dry Density	Mg/m³	1.59	1.66	1.70	1.61	1.53

Grading zone	4
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	2
Material Retained on 20.0 mm Sieve	%	12
Particle Density - Assumed	Mg/m³	2.45
As received Water Content	%	14
Maximum Dry Density	Mg/m³	1.70

Optimum Water Content	%	16
-----------------------	---	----

Remarks: Replaces Analytical Report Number 24-038507, issue no 1; Additional results of Compaction Light

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Page 1 of 1

Date Reported: 24/09/2024

GF 599.1



4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

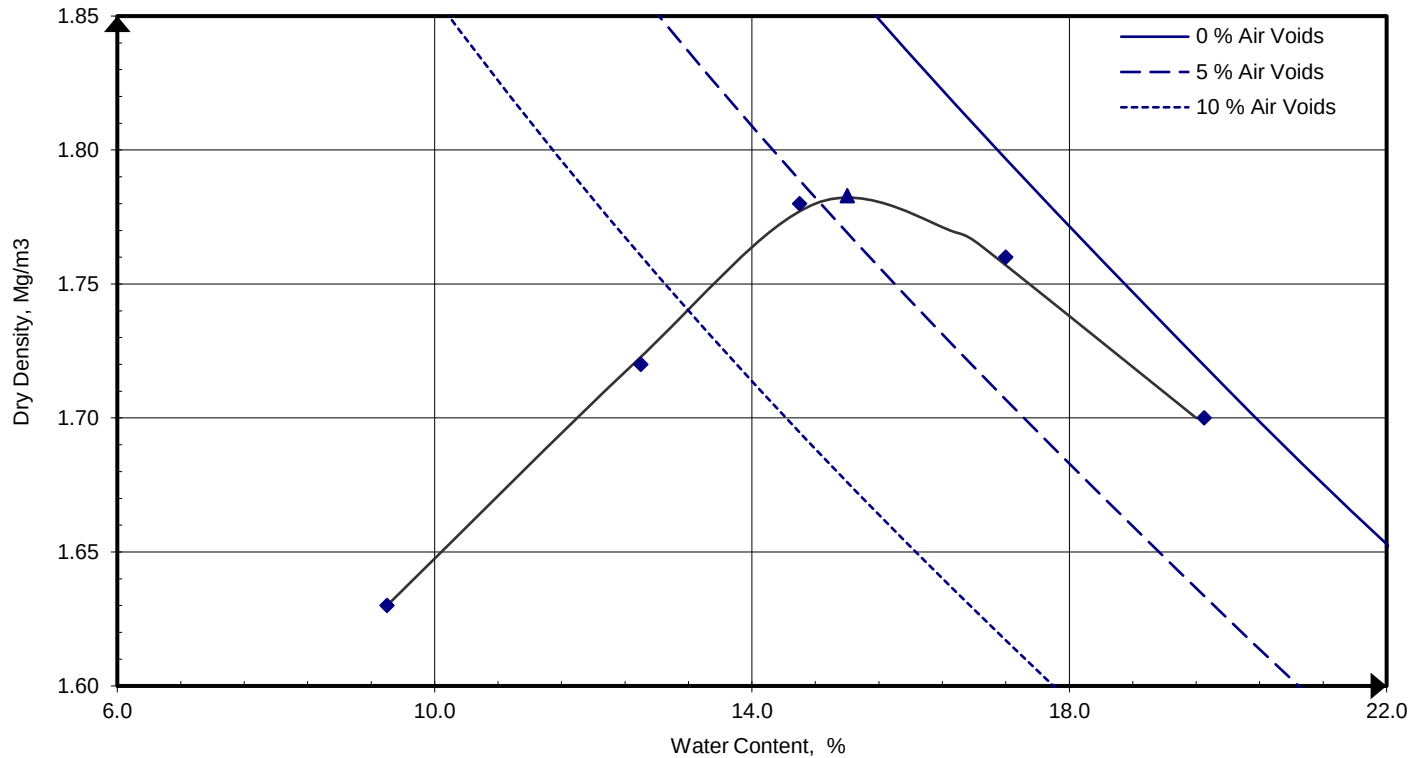
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-038507-2
Date Sampled: 23/08/2024
Date Received: 27/08/2024
Date Tested: 18/09/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 298005
Hole No.: ash fill 10
Sample Reference: 230824
Sample Description: Dark brown gravelly SAND
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Compaction Point No.	1	2	3	4	5	
Water Content	%	9.4	12.6	14.6	17.2	19.7
Dry Density	Mg/m³	1.63	1.72	1.78	1.76	1.70

Grading zone	3
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	14
Particle Density - Assumed	Mg/m³	2.60
As received Water Content	%	12
Maximum Dry Density	Mg/m³	1.78

Optimum Water Content	%	15
-----------------------	---	----

Remarks: Replaces Analytical Report Number 24-038507, issue no 1; Additional results of Compaction Light

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-039768-0
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

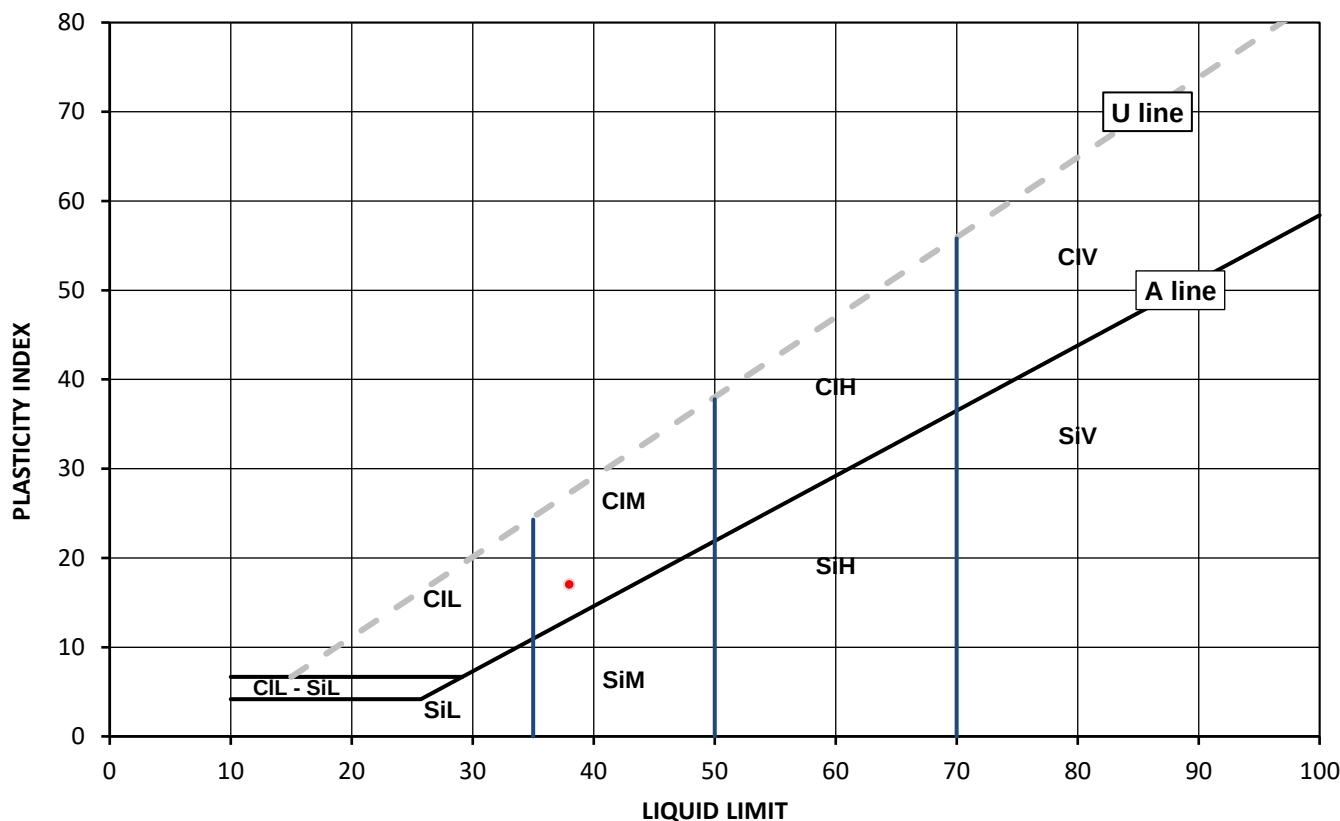
Test Results:

Laboratory Reference: 304215
Hole No.: Loc 1
Sample Reference: Not Given
Sample Description: Orangish brown slightly gravelly sandy CLAY

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
20.4	38	21	17	-0.06	1.06	96



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks: Preliminary report

Signed:

Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-039768-0
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

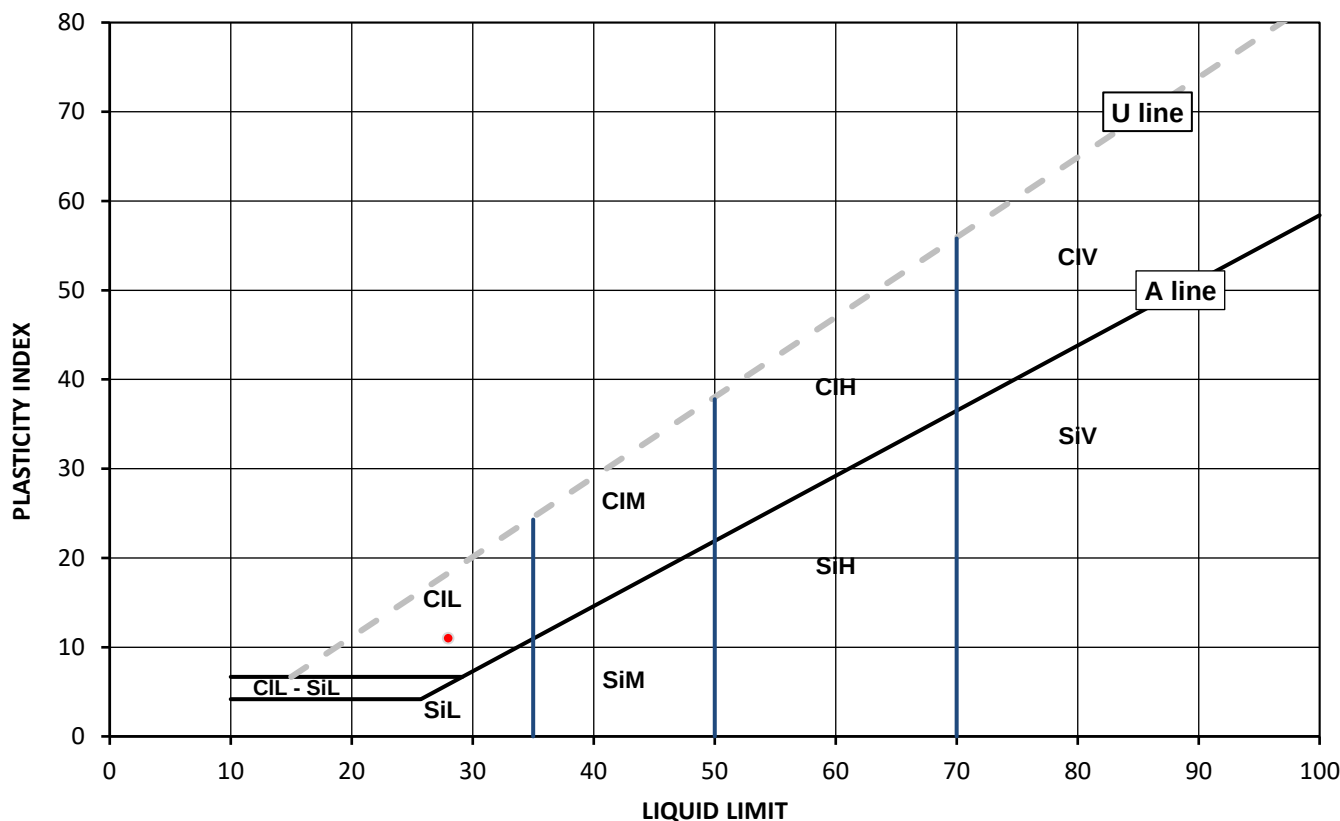
Test Results:

Laboratory Reference: 304216
Hole No.: Loc 2
Sample Reference: Not Given
Sample Description: Brown slightly gravelly clayey SAND

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
18.8	28	17	11	0.18	0.82	77



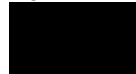
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks: Preliminary report

Signed:



Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

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

Client Reference: 101221
Job Number: 24-039768-0
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

Contact: David Knapp
Site Address: Victoria North

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit								Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD	
			m	m					%	%		%	%			Mg/m3	Mg/m3	Mg/m3	
304215	Loc 1	Not Given	Not Given	Not Given	B	Orangish brown slightly gravelly sandy CLAY	Atterberg 4 Point	20.4	96	38	-	21	17	80g/30 deg	R / I				
304216	Loc 2	Not Given	Not Given	Not Given	B	Brown slightly gravelly clayey SAND	Atterberg 4 Point	18.8	77	28	-	17	11	80g/30 deg	W / I				

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

Comments: Preliminary report

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Signed:



Katarzyna Banyas
Reporting Specialist
for and on behalf of i2 Analytical Ltd



SUMMARY REPORT
DETERMINATION OF WATER CONTENT

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041
Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

Client Reference: 101221
Job Number: 24-039768-0
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

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

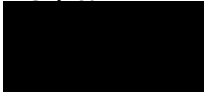
Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
304215	Loc 1	Not Given	Not Given	Not Given	B	Orangish brown slightly garavelly sandy CLAY		20.4											
304216	Loc 2	Not Given	Not Given	Not Given	B	Brown slightly gravelly clayey SAND		18.8											

Comments: Preliminary report

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Signed:



Katarzyna Banyas
Reporting Specialist
for and on behalf of i2 Analytical Ltd



4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

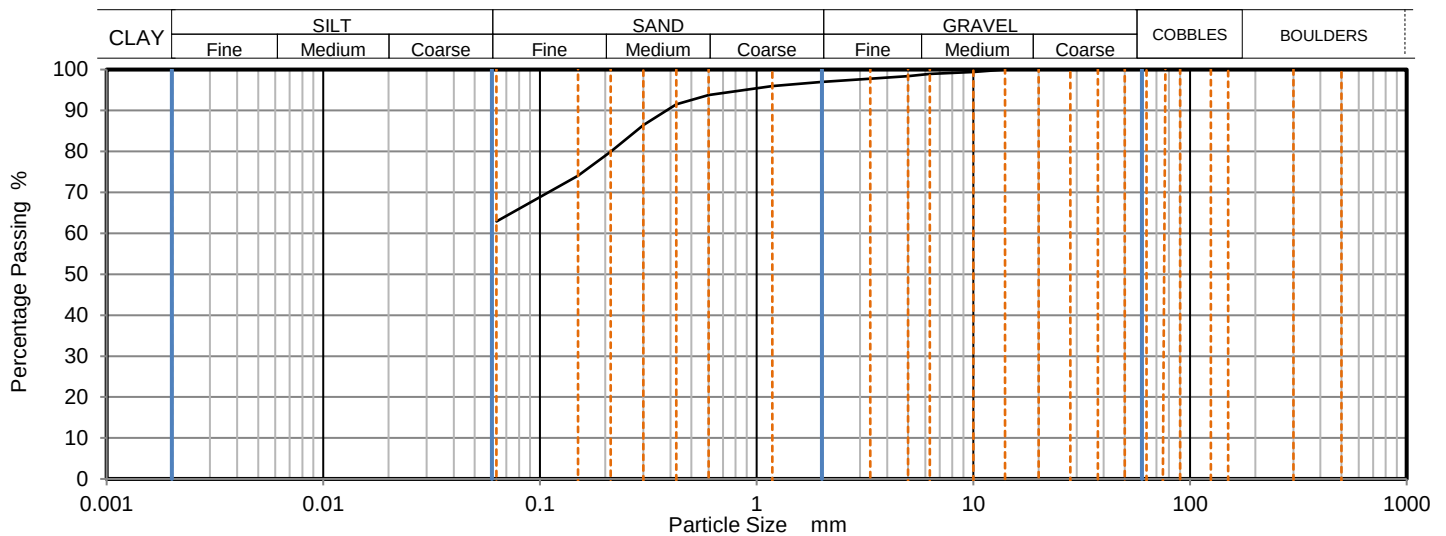
Client Reference: 101221
Job Number: 24-039768-0
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 304215
Hole No.: Loc 1
Sample Reference: Not Given
Sample Description: Orangish brown slightly gravelly sandy CLAY
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94		
0.425	92		
0.3	86		
0.212	80		
0.15	74		
0.063	63		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	3.00
Sand	34.00
Fines <0.063 mm	63.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	N/A
Curvature Coefficient	

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

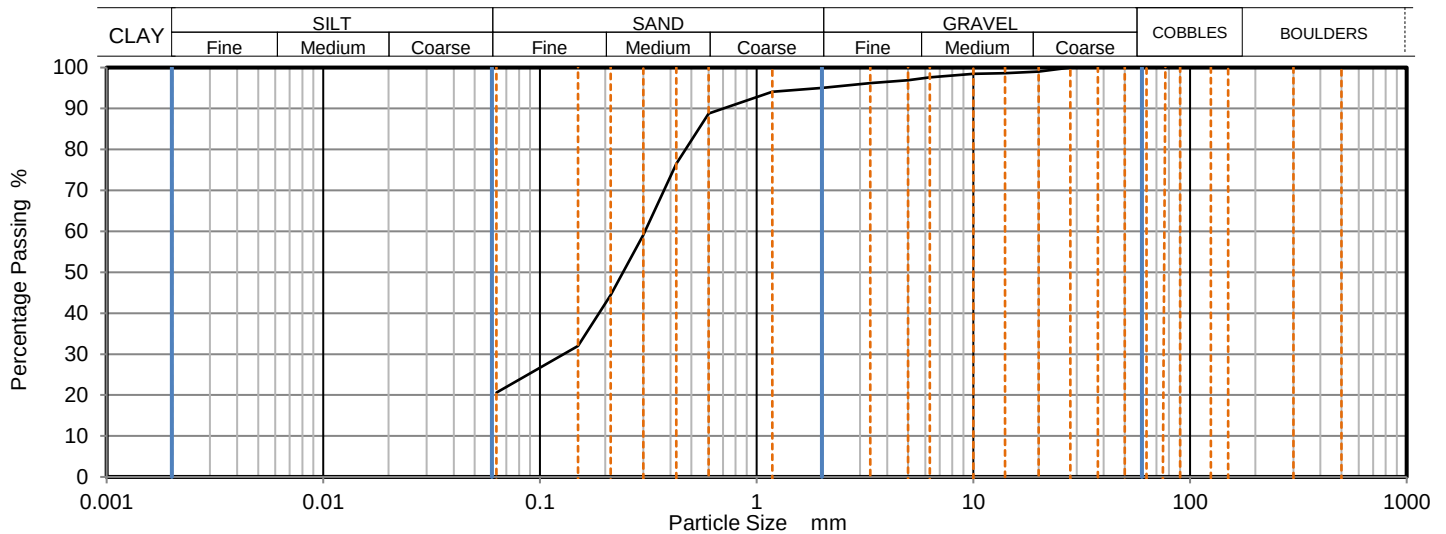
Client Reference: 101221
Job Number: 24-039768-0
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 304216
Hole No.: Loc 2
Sample Reference: Not Given
Sample Description: Brown slightly gravelly clayey SAND
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	99		
10	99		
6.3	98		
5	97		
3.35	96		
2	95		
1.18	94		
0.6	89		
0.425	77		
0.3	59		
0.212	44		
0.15	32		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	5.00
Sand	74.00
Fines <0.063 mm	21.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	4.8
Curvature Coefficient	

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:



Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

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

Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

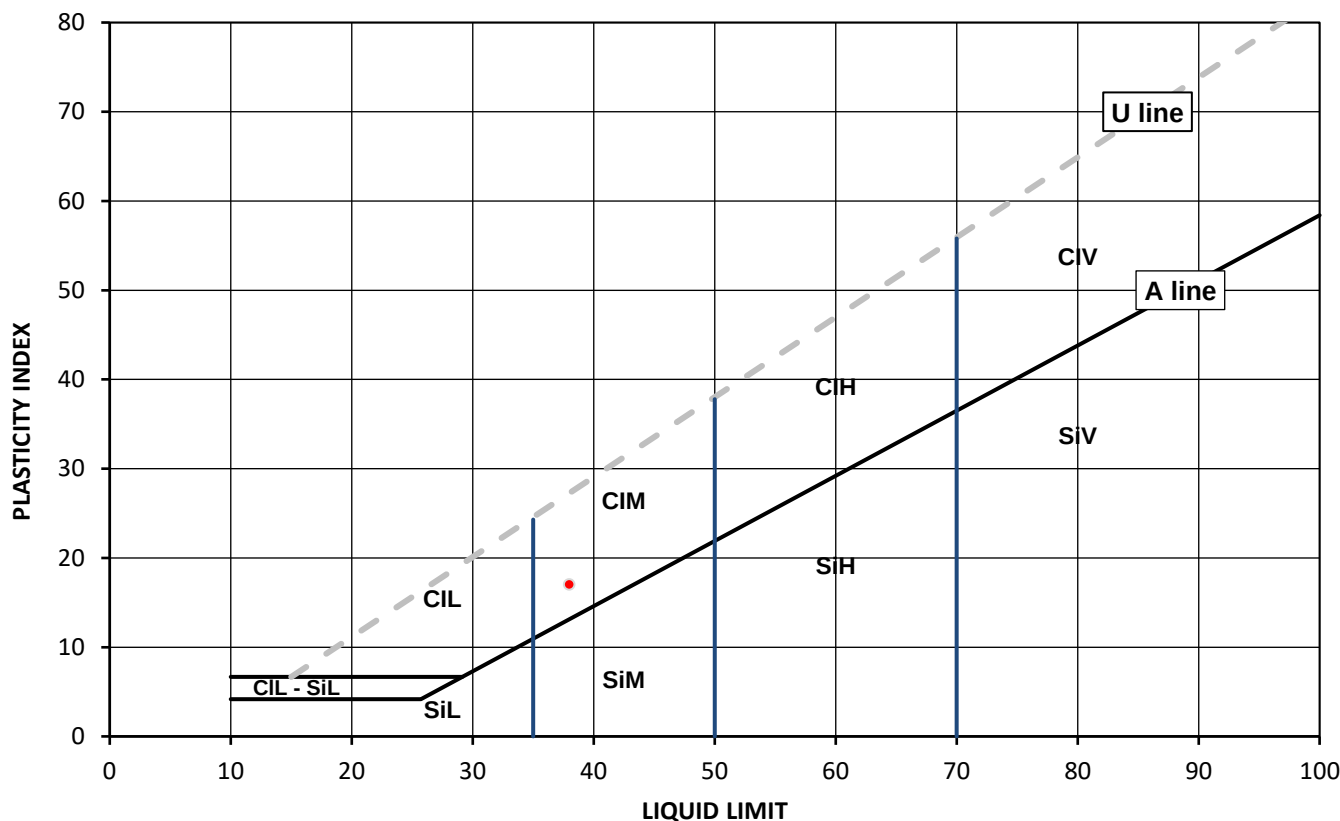
Test Results:

Laboratory Reference: 304215
Hole No.: Loc 1
Sample Reference: Not Given
Sample Description: Orangish brown slightly gravelly sandy CLAY

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
20.4	38	21	17	-0.06	1.06	96



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041

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

Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

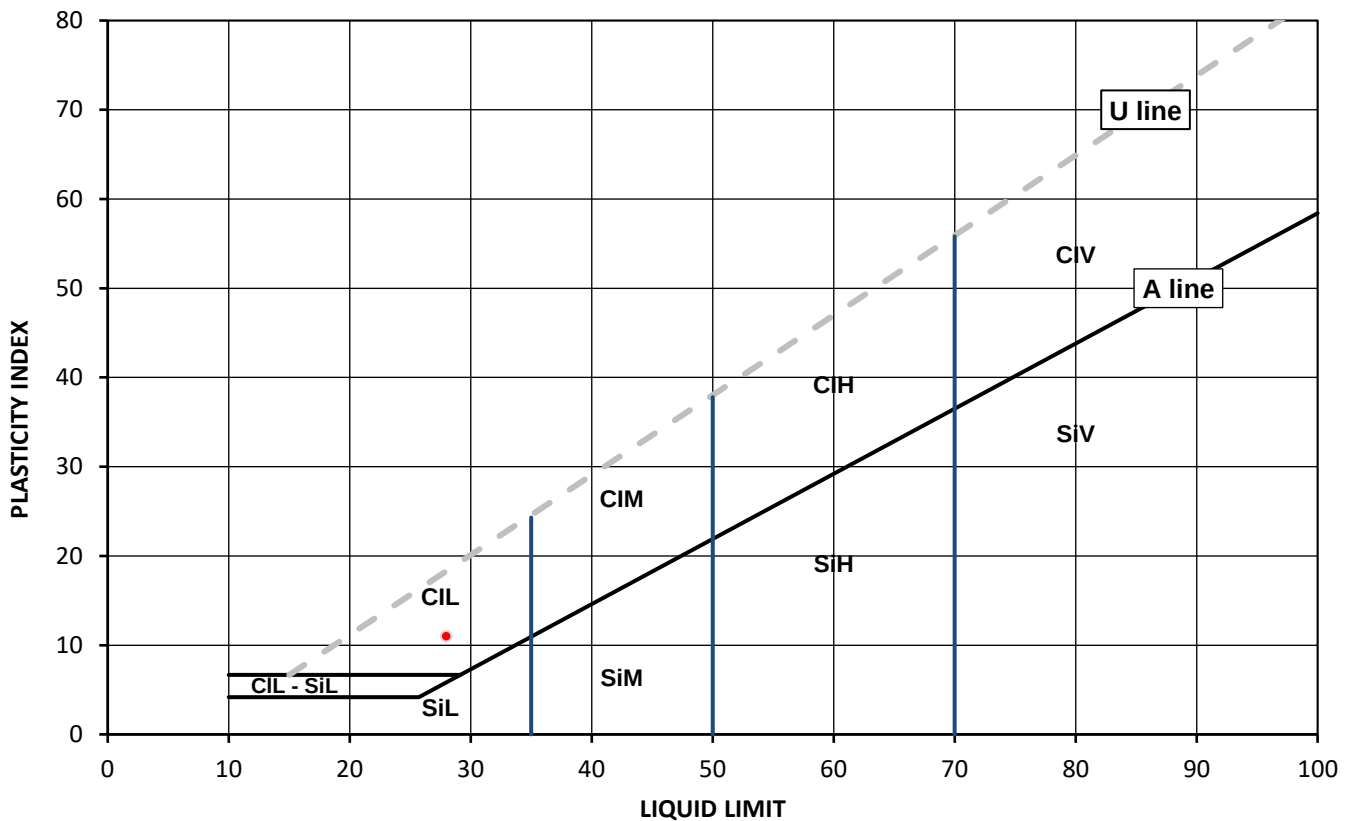
Test Results:

Laboratory Reference: 304216
Hole No.: Loc 2
Sample Reference: Not Given
Sample Description: Brown slightly gravelly clayey SAND

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

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

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
18.8	28	17	11	0.18	0.82	77



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

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

Note: Water Content by BS EN 17892-1: 2014; # Non accredited

Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

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

Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

Contact: David Knapp
Site Address: Victoria North

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m					%	%		%	%			Mg/m3	Mg/m3	Mg/m3
304215	Loc 1	Not Given	Not Given	Not Given	B	Orangish brown slightly gravelly sandy CLAY	Atterberg 4 Point	20.4	96	38	-	21	17	80g/30 deg	R / I			
304216	Loc 2	Not Given	Not Given	Not Given	B	Brown slightly gravelly clayey SAND	Atterberg 4 Point	18.8	77	28	-	17	11	80g/30 deg	W / I			

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

Comments:

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Signed:



Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd



SUMMARY REPORT
DETERMINATION OF WATER CONTENT

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

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041
Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
304215	Loc 1	Not Given	Not Given	Not Given	B	Orangish brown slightly garavelly sandy CLAY		20.4											
304216	Loc 2	Not Given	Not Given	Not Given	B	Brown slightly gravelly clayey SAND		18.8											

Comments:

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Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd



4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

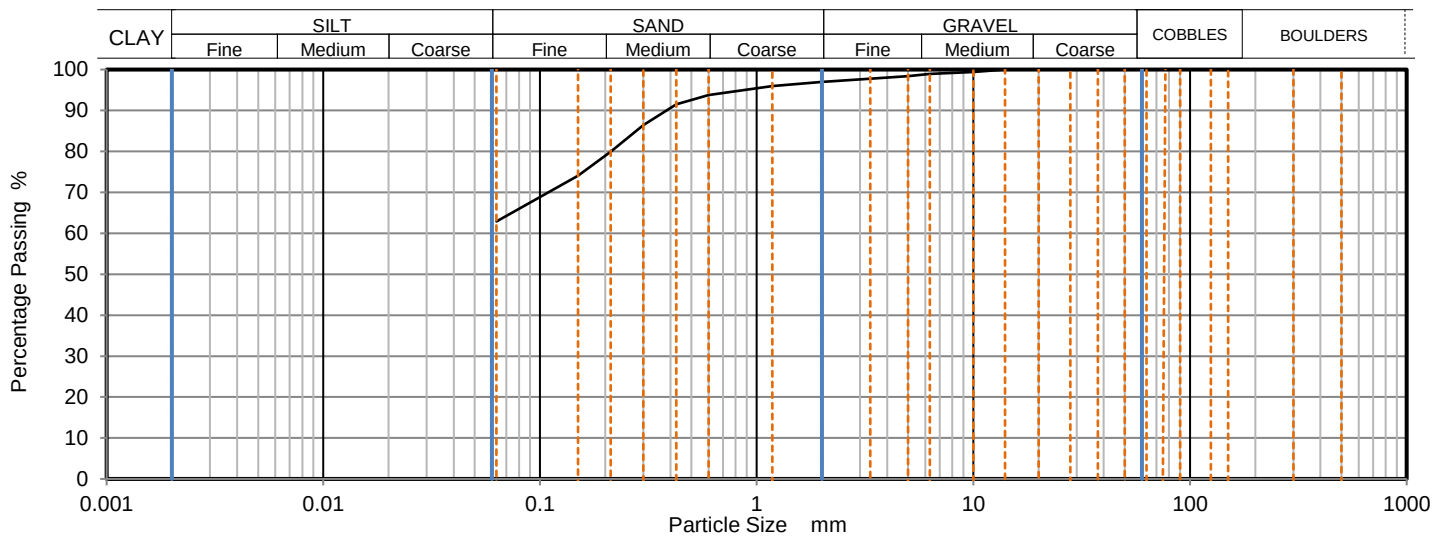
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 304215
Hole No.: Loc 1
Sample Reference: Not Given
Sample Description: Orangish brown slightly gravelly sandy CLAY
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94		
0.425	92		
0.3	86		
0.212	80		
0.15	74		
0.063	63		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	3.00
Sand	34.00
Fines <0.063 mm	63.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	N/A
Curvature Coefficient	

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:



Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

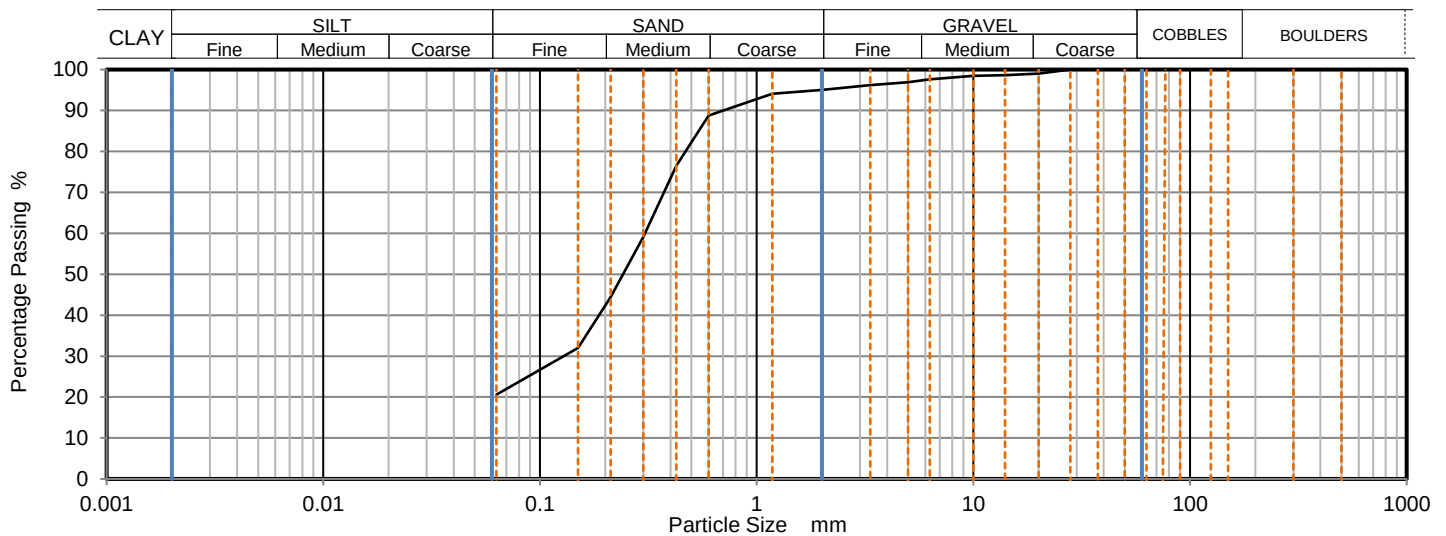
Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 18/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 304216
Hole No.: Loc 2
Sample Reference: Not Given
Sample Description: Brown slightly gravelly clayey SAND
Sample Preparation: Sample was quartered, oven dried at 106.2 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	99		
10	99		
6.3	98		
5	97		
3.35	96		
2	95		
1.18	94		
0.6	89		
0.425	77		
0.3	59		
0.212	44		
0.15	32		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	5.00
Sand	74.00
Fines <0.063 mm	21.00

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	4.8
Curvature Coefficient	

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:



Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

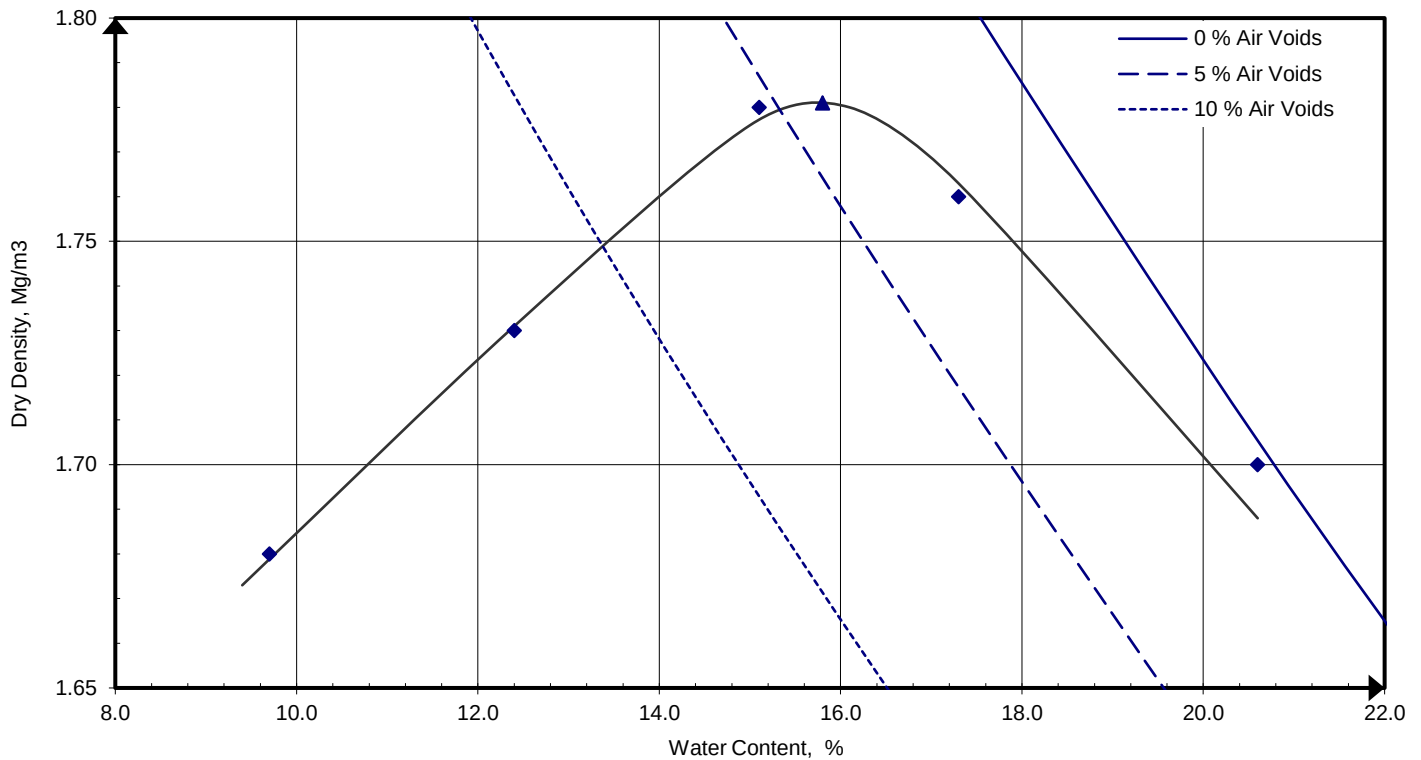
Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UBContact: David Knapp
Site Address: Victoria NorthClient Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 25/09/2024
Sampled By: Not Given

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

Test Results:Laboratory Reference: 304215
Hole No.: Loc 1
Sample Reference: Not Given
Sample Description: Orangish brown slightly gravelly sandy CLAY
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B

Compaction Point No.	1	2	3	4	5	
Water Content	%	9.7	12.4	15.1	17.3	20.6
Dry Density	Mg/m³	1.68	1.73	1.78	1.76	1.70

Grading zone	1
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.63
As received Water Content	%	20
Maximum Dry Density	Mg/m³	1.78

Optimum Water Content	%	16
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Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**DETERMINATION OF DRY DENSITY/WATER
CONTENT RELATIONSHIP COMPACTION METHOD
USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2:2022, cl. 11.3, 11.4

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Victoria North

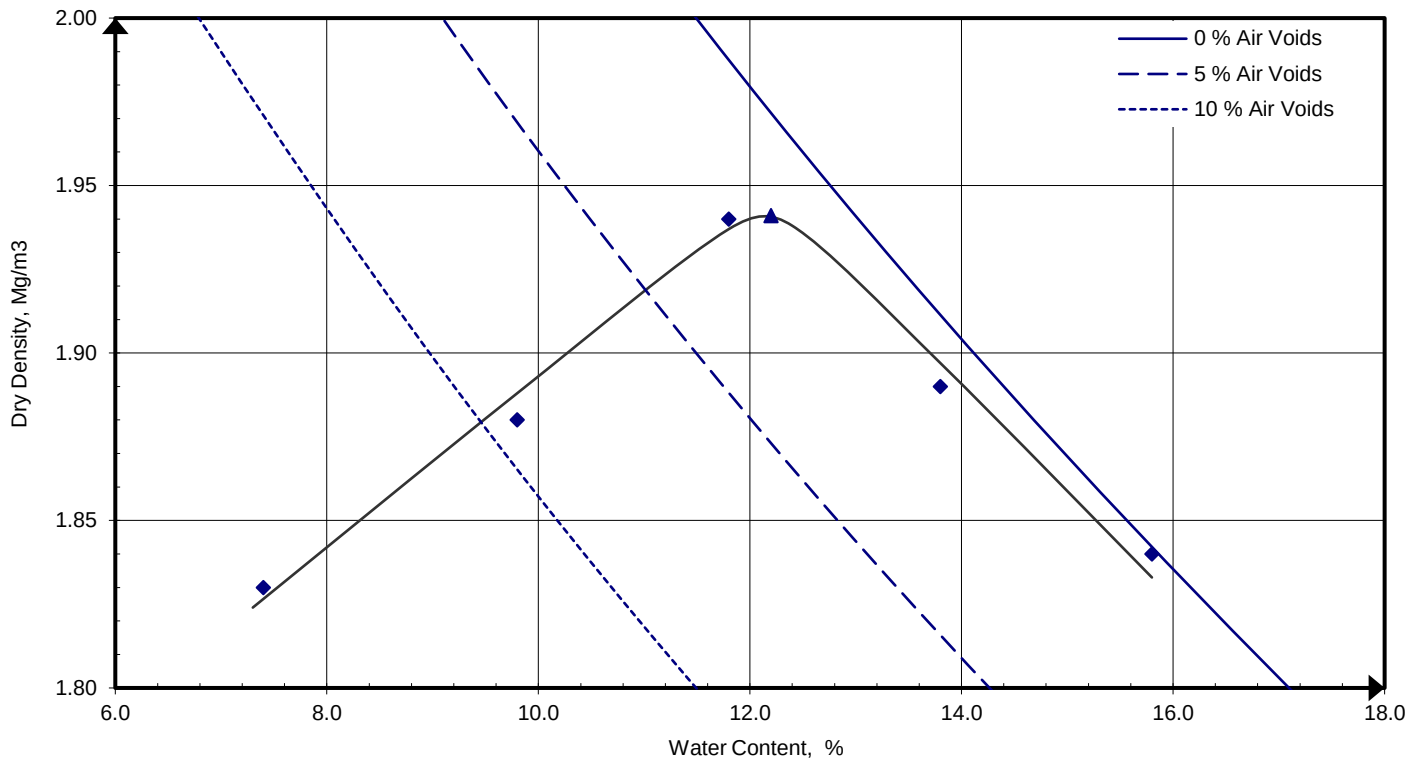
Client Reference: 101221
Job Number: 24-039768-1
Date Sampled: 30/08/2024
Date Received: 03/09/2024
Date Tested: 25/09/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 304216
Hole No.: Loc 2
Sample Reference: Not Given
Sample Description: Brown slightly gravelly clayey SAND
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Compaction Point No.	1	2	3	4	5	
Water Content	%	7.4	9.8	11.8	13.8	15.8
Dry Density	Mg/m³	1.83	1.88	1.94	1.89	1.84

Grading zone	2
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.60
As received Water Content	%	19
Maximum Dry Density	Mg/m³	1.94

Optimum Water Content	%	12
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Remarks:

Signed:

Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: Provectus Group
Client Address: 200 Brook Drive, Green Park,
Reading, RG2 6UB

Contact: David Knapp
Site Address: Gas Main Cut

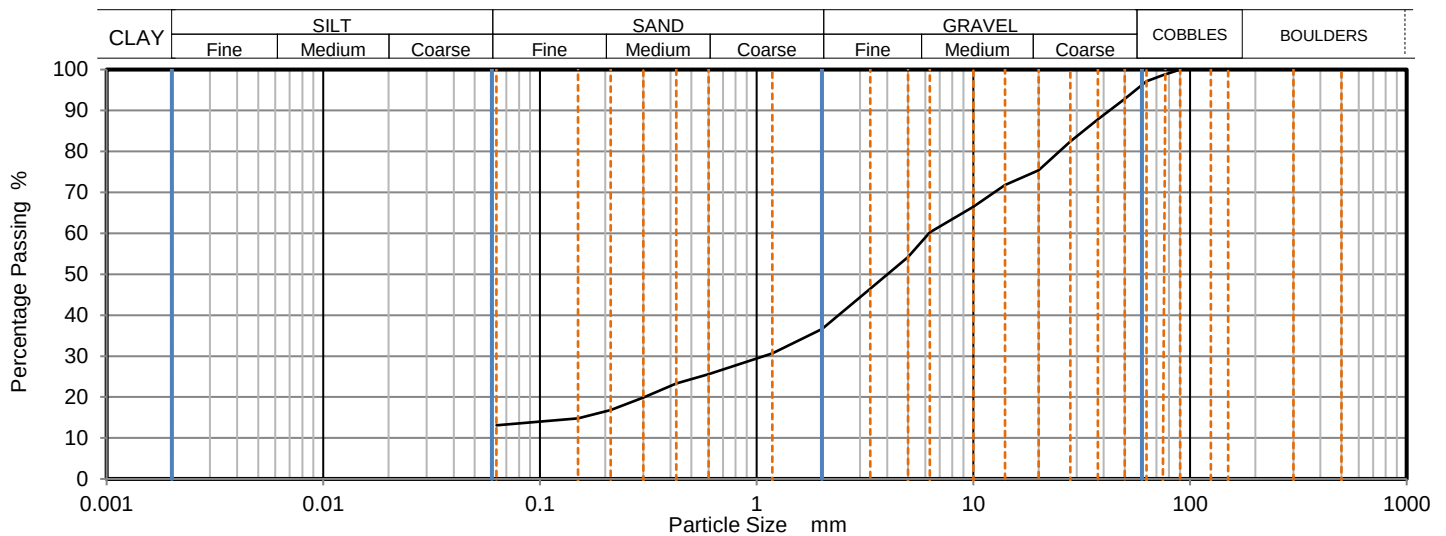
Client Reference: Not Given
Job Number: 24-050719-1
Date Sampled: Not Given
Date Received: 30/10/2024
Date Tested: 06/11/2024
Sampled By: Not Given

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

Test Results:

Laboratory Reference: 363618
Hole No.: Sample 1
Sample Reference: Not Given
Sample Description: Dark brown very sandy clayey GRAVEL
Sample Preparation: Sample was quartered, oven dried at 107.1 °C and broken down by hand.

Depth Top [m]: Not Given
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	99		
63	97		
50	93		
37.5	88		
28	82		
20	75		
14	72		
10	67		
6.3	60		
5	54		
3.35	47		
2	37		
1.18	31		
0.6	26		
0.425	23		
0.3	20		
0.212	17		
0.15	15		
0.063	13		

Sample Proportions	% dry mass
Very coarse	3.00
Gravel	61.00
Sand	23.00
Fines <0.063 mm	13.00

Grading Analysis		
D100	mm	90
D60	mm	6.26
D30	mm	1.07
D10	mm	
Uniformity Coefficient		99
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:



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

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Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix Bb

Backfill compaction certificates



Technical engineering checklist TEC602: Earthworks compaction record

Technical engineering checklist TEC602: Earthworks compaction record

[illegible]

Right first time?

Right first time?	Yes	No
Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Did the material appear consistent and compacted in suitable weather?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client before commencing fill construction?	Yes	No

	Signed (BAM Nuttall)	Signed (Client)
--	----------------------	-----------------

BAM Nuttall management system

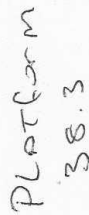
Technical engineering checklist TEC602: Earthworks compaction record

* surface with
due to obs

Project name: VICTORIA NORTH		Project number: 101221		Activity plan number:	
Recorded by: A ASTLEY		Date: 12-7-24		Weather:	
Location: NT02 PAROLA		Chainage:		Material class (table 6/1): 1A	
Layer: 1		Optimum moisture content %:		MC range for compaction %:	
Compaction plant: CAT 13T ROLLER		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4): 275		Minimum number of passes (table 6/4): 4		Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

Record of Compaction		Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
from	Chaining to							
LAYER 1	LAYER 1	9-30 AM	Y	4	275			
LAYER 2	LAYER 2	11-30 AM	Y	4	275			
LAYER 3	LAYER 3	12-00 PM	Y	4	275			
LAYER 4	LAYER 4	13-45 PM	Y	4	275			
LAYER 5	LAYER 5	15-45 PM	Y	4	275			
LAYER 6	LAYER 6	17-30 PM	Y	4	275			
LAYER 7	LAYER 7	19-30 PM	Y	4	275			
LAYER 8	LAYER 8	21-30 PM	Y	4	275			
LAYER 9	LAYER 9	23-30 PM	Y	4	275			
LAYER 10	LAYER 10	25-30 PM	Y	4	275			
LAYER 11	LAYER 11	27-30 PM	Y	4	275			
LAYER 12	LAYER 12	29-30 PM	Y	4	275			
LAYER 13	LAYER 13	31-30 PM	Y	4	275			
LAYER 14	LAYER 14	33-30 PM	Y	4	275			
LAYER 15	LAYER 15	35-30 PM	Y	4	275			
LAYER 16	LAYER 16	37-30 PM	Y	4	275			
LAYER 17	LAYER 17	39-30 PM	Y	4	275			
LAYER 18	LAYER 18	41-30 PM	Y	4	275			
LAYER 19	LAYER 19	43-30 PM	Y	4	275			
LAYER 20	LAYER 20	45-30 PM	Y	4	275			
LAYER 21	LAYER 21	47-30 PM	Y	4	275			
LAYER 22	LAYER 22	49-30 PM	Y	4	275			
LAYER 23	LAYER 23	51-30 PM	Y	4	275			
LAYER 24	LAYER 24	53-30 PM	Y	4	275			
LAYER 25	LAYER 25	55-30 PM	Y	4	275			
LAYER 26	LAYER 26	57-30 PM	Y	4	275			
LAYER 27	LAYER 27	59-30 PM	Y	4	275			
LAYER 28	LAYER 28	61-30 PM	Y	4	275			
LAYER 29	LAYER 29	63-30 PM	Y	4	275			
LAYER 30	LAYER 30	65-30 PM	Y	4	275			
LAYER 31	LAYER 31	67-30 PM	Y	4	275			
LAYER 32	LAYER 32	69-30 PM	Y	4	275			
LAYER 33	LAYER 33	71-30 PM	Y	4	275			
LAYER 34	LAYER 34	73-30 PM	Y	4	275			
LAYER 35	LAYER 35	75-30 PM	Y	4	275			
LAYER 36	LAYER 36	77-30 PM	Y	4	275			
LAYER 37	LAYER 37	79-30 PM	Y	4	275			
LAYER 38	LAYER 38	81-30 PM	Y	4	275			
LAYER 39	LAYER 39	83-30 PM	Y	4	275			
LAYER 40	LAYER 40	85-30 PM	Y	4	275			
LAYER 41	LAYER 41	87-30 PM	Y	4	275			
LAYER 42	LAYER 42	89-30 PM	Y	4	275			
LAYER 43	LAYER 43	91-30 PM	Y	4	275			
LAYER 44	LAYER 44	93-30 PM	Y	4	275			
LAYER 45	LAYER 45	95-30 PM	Y	4	275			
LAYER 46	LAYER 46	97-30 PM	Y	4	275			
LAYER 47	LAYER 47	99-30 PM	Y	4	275			
LAYER 48	LAYER 48	101-30 PM	Y	4	275			
LAYER 49	LAYER 49	103-30 PM	Y	4	275			
LAYER 50	LAYER 50	105-30 PM	Y	4	275			
LAYER 51	LAYER 51	107-30 PM	Y	4	275			
LAYER 52	LAYER 52	109-30 PM	Y	4	275			
LAYER 53	LAYER 53	111-30 PM	Y	4	275			
LAYER 54	LAYER 54	113-30 PM	Y	4	275			
LAYER 55	LAYER 55	115-30 PM	Y	4	275			
LAYER 56	LAYER 56	117-30 PM	Y	4	275			
LAYER 57	LAYER 57	119-30 PM	Y	4	275			
LAYER 58	LAYER 58	121-30 PM	Y	4	275			
LAYER 59	LAYER 59	123-30 PM	Y	4	275			
LAYER 60	LAYER 60	125-30 PM	Y	4	275			
LAYER 61	LAYER 61	127-30 PM	Y	4	275			
LAYER 62	LAYER 62	129-30 PM	Y	4	275			
LAYER 63	LAYER 63	131-30 PM	Y	4	275			
LAYER 64	LAYER 64	133-30 PM	Y	4	275			
LAYER 65	LAYER 65	135-30 PM	Y	4	275			
LAYER 66	LAYER 66	137-30 PM	Y	4	275			
LAYER 67	LAYER 67	139-30 PM	Y	4	275			
LAYER 68	LAYER 68	141-30 PM	Y	4	275			
LAYER 69	LAYER 69	143-30 PM	Y	4	275			
LAYER 70	LAYER 70	145-30 PM	Y	4	275			
LAYER 71	LAYER 71	147-30 PM	Y	4	275			
LAYER 72	LAYER 72	149-30 PM	Y	4	275			
LAYER 73	LAYER 73	151-30 PM	Y	4	275			
LAYER 74	LAYER 74	153-30 PM	Y	4	275			
LAYER 75	LAYER 75	155-30 PM	Y	4	275			
LAYER 76	LAYER 76	157-30 PM	Y	4	275			
LAYER 77	LAYER 77	159-30 PM	Y	4	275			
LAYER 78	LAYER 78	161-30 PM	Y	4	275			
LAYER 79	LAYER 79	163-30 PM	Y	4	275			
LAYER 80	LAYER 80	165-30 PM	Y	4	275			
LAYER 81	LAYER 81	167-30 PM	Y	4	275			
LAYER 82	LAYER 82	169-30 PM	Y	4	275			
LAYER 83	LAYER 83	171-30 PM	Y	4	275			
LAYER 84	LAYER 84	173-30 PM	Y	4	275			
LAYER 85	LAYER 85	175-30 PM	Y	4	275			
LAYER 86	LAYER 86	177-30 PM	Y	4	275			
LAYER 87	LAYER 87	179-30 PM	Y	4	275			
LAYER 88	LAYER 88	181-30 PM	Y	4	275			
LAYER 89	LAYER 89	183-30 PM	Y	4	275			
LAYER 90	LAYER 90	185-30 PM	Y	4	275			
LAYER 91	LAYER 91	187-30 PM	Y	4	275			
LAYER 92	LAYER 92	189-30 PM	Y	4	275			
LAYER 93	LAYER 93	191-30 PM	Y	4	275			
LAYER 94	LAYER 94	193-30 PM	Y	4	275			
LAYER 95	LAYER 95	195-30 PM	Y	4	275			
LAYER 96	LAYER 96	197-30 PM	Y	4	275			
LAYER 97	LAYER 97	199-30 PM	Y	4	275			
LAYER 98	LAYER 98	201-30 PM	Y	4	275			
LAYER 99	LAYER 99	203-30 PM	Y	4	275			
LAYER 100	LAYER 100	205-30 PM	Y	4	275			
LAYER 101	LAYER 101	207-30 PM	Y	4	275			
LAYER 102	LAYER 102	209-30 PM	Y	4	275			
LAYER 103	LAYER 103	211-30 PM	Y	4	275			
LAYER 104	LAYER 104	213-30 PM	Y	4	275			
LAYER 105	LAYER 105	215-30 PM	Y	4	275			
LAYER 106	LAYER 106	217-30 PM	Y	4	275			
LAYER 107	LAYER 107	219-30 PM	Y	4	275			
LAYER 108	LAYER 108	221-30 PM	Y	4	275			
LAYER 109	LAYER 109	223-30 PM	Y	4	275			
LAYER 110	LAYER 110	225-30 PM	Y	4	275			
LAYER 111	LAYER 111	227-30 PM	Y	4	275			
LAYER 112	LAYER 112	229-30 PM	Y	4	275			
LAYER 113	LAYER 113	231-30 PM	Y	4	275			
LAYER 114	LAYER 114	233-30 PM	Y	4	275			
LAYER 115	LAYER 115	235-30 PM	Y	4	275			
LAYER 116	LAYER 116	237-30 PM	Y	4	275			
LAYER 117	LAYER 117	239-30 PM	Y	4	275			
LAYER 118	LAYER 118	241-30 PM	Y	4	275			
LAYER 119	LAYER 119	243-30 PM	Y	4	275			
LAYER 120	LAYER 120	245-30 PM	Y	4	275			
LAYER 121	LAYER 121	247-30 PM	Y	4	275			
LAYER 122	LAYER 122	249-30 PM	Y	4	275			
LAYER 123	LAYER 123	251-30 PM	Y	4	275			
LAYER 124	LAYER 124	253-30 PM	Y	4	275			
LAYER 125	LAYER 125	255-30 PM	Y	4	275			
LAYER 126	LAYER 126	257-30 PM	Y	4	275			
LAYER 127	LAYER 127	259-30 PM	Y	4	275			
LAYER 128	LAYER 128	261-30 PM	Y	4	275			
LAYER 129	LAYER 129	263-30 PM	Y	4	275			
LAYER 130	LAYER 130	265-30 PM	Y	4	275			
LAYER 131	LAYER 131	267-30 PM	Y	4	275			
LAYER 132	LAYER 132	269-30 PM	Y	4	275			
LAYER 133	LAYER 133	271-30 PM	Y	4	275			
LAYER 134	LAYER 134	273-30 PM	Y	4	275			
LAYER 135	LAYER 135	275-30 PM	Y	4	275			
LAYER 136	LAYER 136	277-30 PM	Y	4	275			
LAYER 137	LAYER 137	279-30 PM	Y	4	275			
LAYER 138	LAYER 138	281-30 PM	Y	4	275			
LAYER 139	LAYER 139	283-30 PM	Y	4	275			
LAYER 140	LAYER 140	285-30 PM	Y	4	275			
LAYER 141	LAYER 141	287-30 PM	Y	4	275			
LAYER 142	LAYER 142	289-30 PM	Y	4	275			
LAYER 143	LAYER 143	291-30 PM	Y	4	275			
LAYER 144	LAYER 144	293-30 PM	Y	4	275			
LAYER 145	LAYER 145	295-30 PM	Y	4	275			
LAYER 146	LAYER 146	297-30 PM	Y	4	275			
LAYER 147	LAYER 147	299-30 PM	Y	4	275			
LAYER 148	LAYER 148	301-30 PM	Y	4	275			
LAYER 149	LAYER 149	303-30 PM	Y	4	275			
LAYER 150	LAYER 150	305-30 PM	Y	4	275			
LAYER 151	LAYER 151	307-30 PM	Y	4	275			
LAYER 152	LAYER 152	309-30 PM	Y	4	275			
LAYER 153	LAYER 153	311-30 PM	Y	4	275			
LAYER 154	LAYER 154	313-30 PM	Y	4	275			
LAYER 155	LAYER 155	315-30 PM	Y	4	275			
LAYER 156	LAYER 156	317-30 PM	Y	4	275			
LAYER 157	LAYER 157	319-30 PM	Y	4	275			
LAYER 158	LAYER 158	321-30 PM	Y	4	275			
LAYER 159	LAYER 159	323-30 PM	Y	4	275			
LAYER 160	LAYER 160	325-30 PM	Y	4	275			
LAYER 161	LAYER 161	327-30 PM	Y	4	275			
LAYER 162	LAYER 162	329-30 PM	Y	4	275			
LAYER 163	LAYER 163	331-30 PM	Y	4	275			
LAYER 164	LAYER 164	333-30 PM	Y	4	275			
LAYER 165	LAYER 165	335-30 PM	Y	4	275			
LAYER 166	LAYER 166	337-30 PM	Y	4	275			
LAYER 167	LAYER 167	339-30 PM	Y	4	275			
LAYER 168	LAYER 168	341-30 PM	Y	4	275			
LAYER 169	LAYER 169	343-30 PM	Y	4	275			
LAYER 170	LAYER 170	345-30 PM	Y	4	275			
LAYER 171	LAYER 171	347-30 PM	Y	4	275			
LAYER 172	LAYER 172	349-30 PM	Y	4	275			
LAYER 173	LAYER 173	351-30 PM	Y	4	275			
LAYER 174	LAYER 174	353-30 PM	Y	4	275			
LAYER 175	LAYER 175	355-30 PM	Y	4	275			
LAYER 176	LAYER 176	357-30 PM	Y	4	275			
LAYER 177	LAYER 177	359-30 PM	Y	4	275			
LAYER 178	LAYER 178	361-30 PM	Y	4	275			
LAYER 179	LAYER 179	363-30 PM	Y	4	275			
LAYER 180	LAYER 180	365-30 PM	Y	4	275			
LAYER 181	LAYER 181	367-30 PM	Y	4	275			
LAYER 182	LAYER 182	369-30 PM	Y	4	275			
LAYER 183	LAYER 183	371-30 PM	Y	4	275			
LAYER 184	LAYER 184	373-30 PM	Y	4	275			
LAYER								



Technical engineering checklist TEC602: Earthworks compaction record

Project name:	VICTORIA	Project number:	101221	Activity plan number:	
Recorded by:	L. Cruden	Date:	23.7.24	Weather:	
Location:	RAILCORN 38.3	Chainage:		Material class (table 6/1):	
Layer:	1	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	13TON ROLLER	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	300mm	Minimum number of passes (table 6/4):	6	Final 600mm cl 612-1011 minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:	6	Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

[illegible]

Right first time?

Right first time?	Did laying and compaction meet specification?
	150mm between adjacent joints?
	Were all areas compacted?
	Did the material applied meet specification?
	Was material being laid in correct position?
	Were all problems identified and rectified?
	Was existing formation protected?

Right first time?	Yes	No
Did laying and compaction appear efficient? eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No

Signed (BAM Nuttall)

Signed (Client)



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Technical engineering checklist TEC602: Earthworks compaction record

Project name:	Victoria North	Project number:	101221	Activity plan number:	
Recorded by:	Anna Nettle	Date:	29-7-24	Weather:	Dr
Location:	NT02 P/Ban	Chainage:		Material class (table 6/1):	
Layer:	1	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	CAT 13T roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	300	Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:	1	Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
L1	L2	13.15	Y	4	300			29-7-24 (31-12)
L2	L3	14.30	Y	4	300			
L3	L4	15.15	Y	4	300			30-7-24 (31-12)
L4	L5	10.00	Y	4	300			
L5	L6	15.00	Y	4	300			31-7-24 (30-12)
L6	L7	8.15	Y	4	300			
L7		11.00	Y	4	300			

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)

Signed (Client)



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Technical engineering checklist TEC602: Earthworks compaction record

Project name:	Victoria North	Project number:	101221	Activity plan number:	
Recorded by:	A. ASKEG	Date:	23-7-24	Weather:	Dry
Location:	N 104 P/Feen	Chainage:		Material class (table 6/1):	1A
Layer:	1	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	CAT B7 roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	275	Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 1	L 2	10.00	✓	4	275			23-7-24 (35.35m)
Layer 2	L 3	11.30	✓	4	275			26-7-24
Layer 3	Layer 4	14.00	✓	4	275			29-7-24
Layer 4	Layer 5	10.15	✓	4	275			29-7-24 (32.45m)
Layer 5	Layer 6	11.45	✓	4	275			30-7-24
Layer 6	Layer 7	12.30	✓	4	275			
Layer 7	Layer 8	14.15	✓	4	275			
Layer 8		15.45	✓	4	275			31-7-24 (35.45m)

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)	Signed (Client)
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Technical engineering checklist TEC602: Earthworks compaction record

Project name:	UNIVERSITY	Project number:	101221	Activity plan number:	
Recorded by:	A. SLOAN	Date:	27-8-24	Weather:	DEY
Location:	ACCS RD	Chainage:		Material class (table 6/1):	1a
Layer:		Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	15' CAT ROLLER	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	275mm	Minimum number of passes (table 6/4):	14	Final 600mm cl 612-1011 minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

Chainage from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
NT05-31.25	NT04-40.2		Y	4	275mm			LEVEL - 39-80 49-1300
NT04 GATE	NT04-40.2		Y	4	275			29-8-24

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)
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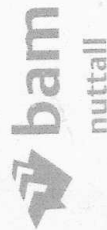
Technical engineering checklist TEC602: Earthworks compaction record

Technical engineering checklist TEC602: Earthworks compaction record

[illegible]

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading?	
150mm between adjacent passes of the roller etc?	
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes
Was material being deposited and compacted in suitable weather?	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	No
Was existing formation approved by the client before commencing fill construction?	Yes

Was existing formation approved by the owner? ☐	Signed (Client)	
Signed (BAM Nuttall)		



Technical engineering checklist TEC602: Earthworks compaction record

[illegible]

Right first time? _____

Was existing formation approved by the client before commencing the work?		Signed (Client)
Signed (BAM Nuttall)		



Technical engineering checklist TEC602: Earthworks compaction record

[illegible]

Question	Yes	No
Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Did all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)		Signed (Client)		Yes	No

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Technical engineering checklist TEC602: Earthworks compaction record

Project name: Victoria North		Project number: 101221		Activity plan number:	
Recorded by: A. Astor		Date: 1-8-24		Weather: Dry	
Location: N704 → Platford 39.55m		Chainage:		Material class (table 6/1):	
Layer: Lower 1		Optimum moisture content %:		MC range for compaction %:	
Compaction plant: cat 13T roller		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4): 300		Minimum number of passes (table 6/4):		Final 600mm cl 612-1011 minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 1	Layer 2	8.30	Y	4	300			Top 100mm at fail line
Layer 2	Layer 3	10.00	Y	4	300			
Layer 3	Layer 4	11.45	Y	4	300			38-350M
Layer 4	Layer 5	14.00	Y	4	300			Platford
Layer 5	Layer 6	15.30	Y	4	300			2-8-24 - 38.8M
Layer 6	Layer 7	17.30	Y	4	300			

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)

Signed (Client)

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Technical engineering checklist TEC602: Earthworks compaction record

Project name:	Victoria North	Project number:	101221	Activity plan number:	
Recorded by:	A. Astley	Date:	5-8-24	Weather:	Day
Location:	NTO's Refarm	Chainage:		Material class (table 6/1):	1A
Layer:		Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	CAT 135 Roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	275 mm	Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10li minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 1	6074.2	10.10	Y	4	275			
Layer 2	6074.2	14.30	Y	4	275			
Layer 3	6074.2	10.30	Y	4	275			
Layer 4	6074.2	15.00	Y	4	275			
Layer 5	6074.2	7.30	Y	4	275			
Layer 6	6074.2	9.30	Y	4	275			
Layer 7	6074.2							
Layer 8	6074.2							
Layer 9	6074.2							
Layer 10	6074.2							
Layer 11	6074.2							
Layer 12	6074.2							
Layer 13	6074.2							
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Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)
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Technical engineering checklist TEC602: Earthworks compaction record

Project name:	Victoria North	Project number:	101221	Activity plan number:	
Recorded by:	A. Nott	Date:	8-8-24	Weather:	Dry
Location:	NT03 Road	Chainage:		Material class (table 6/1):	1A
Layer:		Optimum moisture content %:		MC range for compaction %:	1A
Compaction plant:	Cap 13T roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	300 mm	Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

Chainage	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
from Layer 1	1:00 PM	Y	4	300			38-300
to Layer 2	2:15 PM	Y	4	300			Diff Temp - 1.0 D
1-400	8:30	Y	4	275			124 km 38.0750
2	9:00	Y	4	275			39.00 M
3	9:30	Y	4	275			39.20 M
4	10:00	Y	4	275			39.400 M
5	11:30	Y	4	275			

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)

Signed (Client)

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Technical engineering checklist TEC602: Earthworks compaction record

Project name:	VIC North	Project number:	101221	Activity plan number:	
Recorded by:	A. ASK	Date:	13-8-24	Weather:	dry / day
Location:	Platform 3750	Chainage:		Material class (table 6/1):	1A
Layer:		Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	13' Roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	300mm	Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction		Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
from	Chainage to							
LAYER 1	LAYER 2	12:00	Y	4	275			59.6% OM
LAYER 1	LAYER 2	14:00	Y	4	275			39.8% M
LAYER 1	LAYER 2	11:30	Y	4	275			38.6% M
LAYER 1	LAYER 2			4	275			38.8% M

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)
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Technical engineering checklist TEC602: Earthworks compaction record

Temp file matt.

Project name:	VICTORIA NORTH	Project number:	101221	Activity plan number:	
Recorded by:	Cracknell	Date:	17.10.24	Weather:	Day
Location:	Temp file matt	Chainage:		Material class (table 6/4):	1A
Layer:	Layer 18	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	13 Ton roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	300	Minimum number of passes (table 6/4):	6	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:	6	Operating speed km/hr:	5	Frequency Hz:	
Surcharge required?	No	Depth of surcharge:			

Record of compaction

Chainage from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 17	Layer 18	10:00	Y	6	300			38 321
Layer 15	Layer 19	10:00	Y	6	300			38 621
Layer 19	Layer 20	11:30	Y	6	300			38 921
Layer 21	Layer 22	14:45	Y	6	300 135			39 221

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)	Signed (Client)
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BAM Nuttall management system

Technical engineering checklist TEC602: Earthworks compaction record

Project name:	Victoria North	Project number:	101221	Activity plan number:	
Recorded by:	L. Craddock	Date:	15.10.21	Weather:	Dec
Location:	Temp pile mat.	Chainage:		Material class (table 6/1):	1A
Layer:	6	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:	13 Ton roller	Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):	300 mm	Minimum number of passes (table 6/4):	6	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:	6	Operating speed km/hr:	5	Frequency Hz:	
Surcharge required?	NO	Depth of surcharge:			

Record of compaction

from	to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 6	Layer 7	09:45	y	6	300			35.621
Layer 8	Layer 9	11:30	y	6	300			35.921
Layer 9	Layer 10	13:40	y	6	300			36.221
Layer 10	Layer 11	15:30	y	6	300			36.521
Layer 11	Layer 12	17:00	y	6	300			36.821

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)	Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No



Technical engineering checklist TEC602: Earthworks compaction record

Technical engineering checklist TEC602: Earthworks compaction record

Project name:	Victoria North	Project number:		Activity plan number:	
Recorded by:	A. Astley	Date:	17-6-24	Weather:	Dry
Location:	Sutton V.D Way	Chainage:		Material class (table 6/1):	1A
Layer:	1	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):		Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10li minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

[illegible]

Right first time?

Right machine:
 Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operator able to lay the material?
 150mm between adjacent passes of the roller etc?
 Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?
 Did the material appear consistent eg similar moisture content, no segregation and of similar type?
 Was material being deposited and compacted in suitable weather?
 Did all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?
 Were existing formations approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)
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BAM Nuttall management system

Technical engineering checklist TEC602: Earthworks compaction record

Project name:	VIGGIANOUTH	Project number:	101221	Activity plan number:	
Recorded by:	P. Sowers	Date:	14-6-24	Weather:	DU
Location:	Sale VD LWA	Chainage:	—	Material class (table 6/1):	1A
Layer:	1	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):		Minimum number of passes (table 6/4):	4	Final 600mm cl 612-1011 minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

Chainage from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 1		10.45		6	275			(36.45)
Layer 2		12.00		6	275			
Layer 3		14.45		6	275			
Layer 4		16.10		6	275			(37.00)

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)
----------------------	-----------------

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Technical engineering checklist TEC602: Earthworks compaction record

Project name: Quorra North		Project number: 101221		Activity plan number:	
Recorded by: P. Sowers		Date: 13-6-24		Weather: Dry WFR	
Location: Saltan V Oak Way		Chainage:		Material class (table 6/1): 1A	
Layer: 1		Optimum moisture content %:		MC range for compaction %:	
Compaction plant:		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):		Minimum number of passes (table 6/4):		Final 600mm cl 612-1011 minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

front	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 1		13.50		6	275 mm			(35.9%)
Layer 2		2.15m			275 mm			

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?

Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?

Did the material appear consistent eg similar moisture content, no segregation and of similar type?

Was material being deposited and compacted in suitable weather?

Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?

Was existing formation approved by the client before commencing fill construction?

Signed (BAM Nuttall)	Signed (Client)
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(Road ... not yet to S end of site) → FPL with

BAM Nuttall management system

Technical engineering checklist TEC602: Earthworks compaction record

Project name:	VICTORIA NORTH	Project number:	101221	Activity plan number:	D24
Recorded by:	A ASHLEY	Date:	1-7-24 - 5-7-24	Weather:	1A
Location:	ROAD	Chainage:		Material class (table 6/1):	
Layer:	12	Optimum moisture content %:		MC range for compaction %:	
Compaction plant:		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4):		Minimum number of passes (table 6/4):	4	Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr:		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
LAYER 1	NT02	9:30	Y	6	275			(~32.4m) (~32.125m)
LAYER 2	NT02	10:30	Y	6	275			

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	☒ Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	☒ Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	☒ Yes	No
Was material being deposited and compacted in suitable weather?	☒ Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	☒ Yes	No
Was existing formation approved by the client before commencing fill construction?	☒ Yes	No

Signed (BAM Nuttall)

Signed (Client)

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Technical engineering checklist TEC602: Earthworks compaction record

Project name: Victoria North		Project number: 101221		Activity plan number:	
Recorded by: K Craddock		Date: 16.10.24		Weather: Dry	
Location: Temp 14u north NTB3		Chainage:		Material class (table 6/1): 1A	
Layer: Layer 13		Optimum moisture content %:		MC range for compaction %:	
Compaction plant: Cat 13 Ton Roller		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4): 300		Minimum number of passes (table 6/4): 6		Final 600mm cl 612-10ii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr: 5		Frequency Hz:	
Surcharge required?		Depth of surcharge:			

Record of compaction

from	Chainage to	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 13	Layer 14	10.00	Y	6	300			37.121
Layer 14	Layer 15	12.15	Y	6	300			37.420
Layer 15	Layer 16	14.45	Y	6	300			37.725
Layer 16	Layer 17	16.55	Y	6	300			38.021

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)	Signed (Client)
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Technical engineering checklist TEC602: Earthworks compaction record

Project name: Victoria North		Project number: 101221		Activity plan number:	
Recorded by: L Craddock		Date: 14.10.24		Weather: Dry	
Location: Temporary work MAT		Chainage:		Material class (table 6/1): 1A	
Layer: 1		Optimum moisture content %:		MC range for compaction %:	
Compaction plant: CAT 13 Ton Roller		Mass/metre width kg:		Compaction method (table 6/4):	
Maximum thickness of compacted layer mm (table 6/4): 300 mm		Minimum number of passes (table 6/4): 6		Final 600mm cl 612-10iii minimum number of passes:	
For vibratory rollers minimum number of passes of the roller if different from table 6/4:		Operating speed km/hr: 5		Frequency Hz:	
Surcharge required? NO		Depth of surcharge:			

Record of compaction

from	Chaiage	Time of check	Roller operated at slow/correct speed? (y/n)	Number of passes of roller	Compacted thickness (mm)	Moisture content sample taken (ref)	Moisture content (%)	Comments
Layer 1	to							
Layer 2	Layer 2	09:00	Y	6	300			34.421
Layer 3	Layer 3	12:00	Y	6	300			34.721
Layer 4	Layer 4	14:00	Y	6	300			35.021
Layer 5	Layer 5	16:15	Y	6	300			35.321

Right first time?

Did laying and compaction appear efficient eg was suitable plant employed, was roller able to keep up with spreading, was the roller operated at correct speed, was the rolling overlapped by 150mm between adjacent passes of the roller etc?	Yes	No
Were all areas compacted to the correct depth and with the appropriate number of passes of the roller?	Yes	No
Did the material appear consistent eg similar moisture content, no segregation and of similar type?	Yes	No
Was material being deposited and compacted in suitable weather?	Yes	No
Were all problems areas eg segregation, soft spots treated before moving on or over-laying and was any treatment agreed with the client?	Yes	No
Was existing formation approved by the client before commencing fill construction?	Yes	No

Signed (BAM Nuttall)	Signed (Client)
----------------------	-----------------



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix C

CBR & SRD results

Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.1	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT02-2 CBR	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a		
WEATHER:	Sunny	SAMPLING PLAN:	Client Specification
TEST METHOD:	Incremental Plate Loading	SAMPLE TAKEN:	No

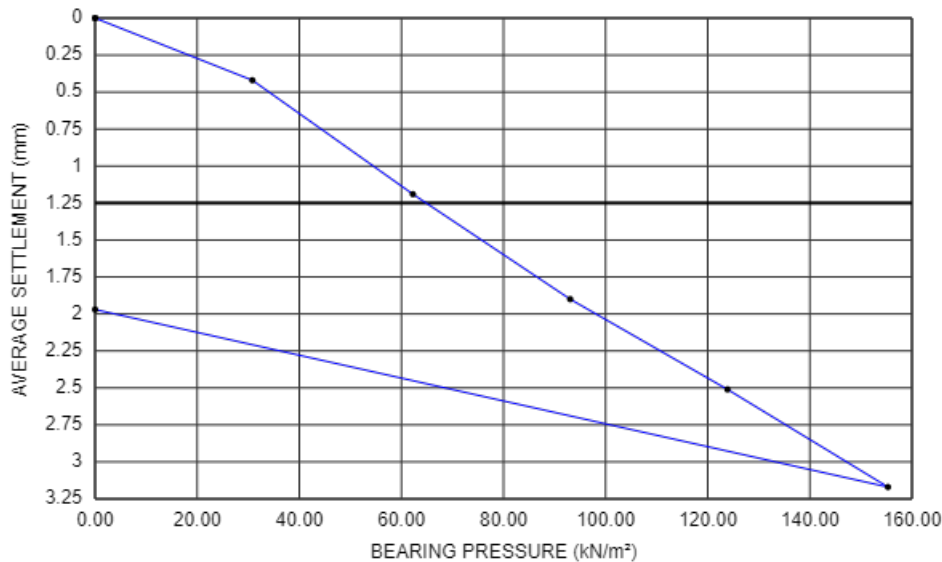
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 3.17 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 64.7 kN/m²
Modulus of subgrade K762: 32 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 4.0%
Plate recovery: 38%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 4.0 %

Remarks:

Test results reported relate only to the items tested.
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www.constructiontesting.co.uk

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1

Page 1 of 2

Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.1

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.35	0.46	0.45	0.42
9.9	62.2	1.01	1.36	1.21	1.19
14.8	93.1	1.60	2.19	1.91	1.90
19.7	123.9	2.13	2.85	2.55	2.51
24.7	155.3	2.80	3.55	3.17	3.17
0.0	0.0	1.64	2.49	1.78	1.97

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
Report date 13-Aug-24

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4161

Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.2	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT02-1 CBR	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

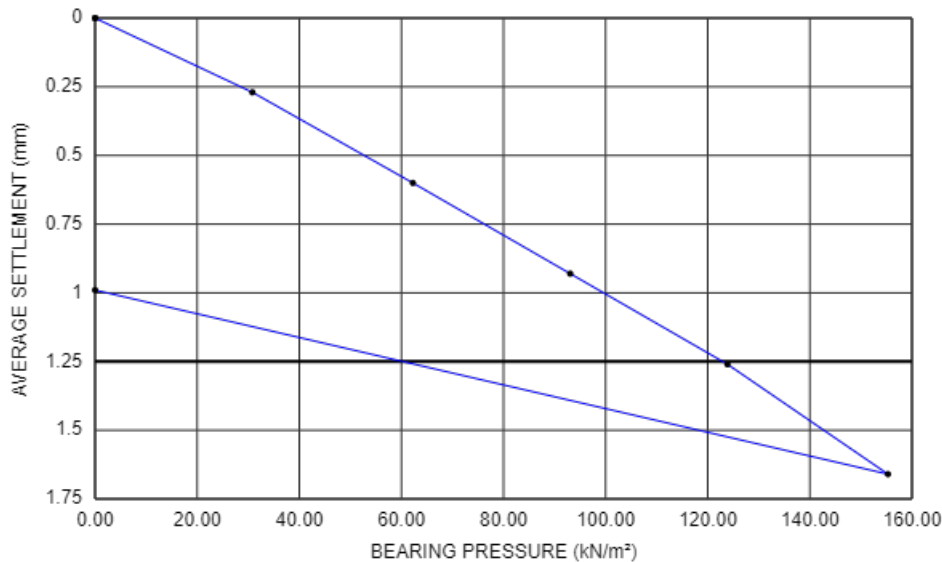
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.66 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 123.2 kN/m²
Modulus of subgrade K762: 61 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 12.1%
Plate recovery: 40%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 12.1 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.2

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.29	0.36	0.17	0.27
9.9	62.2	0.55	0.78	0.46	0.60
14.8	93.1	0.82	1.23	0.75	0.93
19.7	123.9	1.06	1.66	1.05	1.26
24.7	155.3	1.42	2.15	1.42	1.66
0.0	0.0	0.79	1.33	0.85	0.99

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
Report date 13-Aug-24

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.3	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT02-3 CBR	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

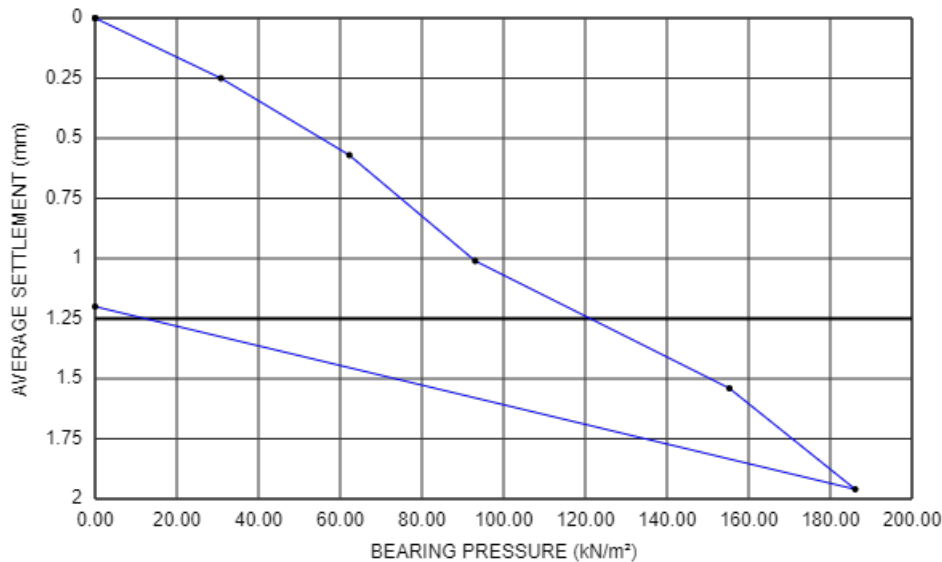
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 186 kN/m²
Max settlement: 1.96 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 121.1 kN/m²
Modulus of subgrade K762: 60 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 11.8%
Plate recovery: 39%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 11.8 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.3

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.30	0.28	0.17	0.25
9.9	62.2	0.66	0.63	0.41	0.57
14.8	93.1	1.11	1.14	0.78	1.01
24.7	155.3	1.68	1.72	1.23	1.54
29.6	186.1	2.13	2.15	1.60	1.96
0.0	0.0	1.40	1.30	0.91	1.20

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.4	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT02-4CBR	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

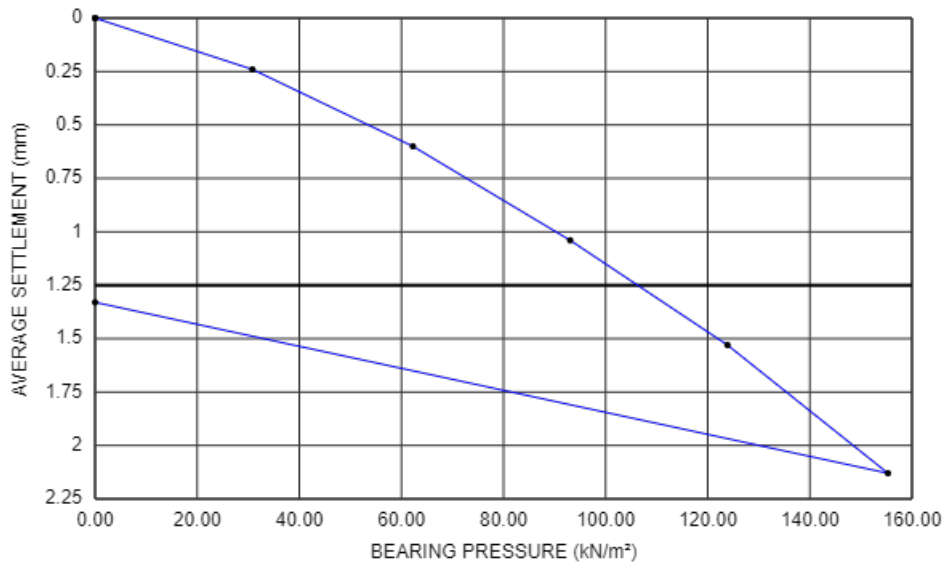
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 2.13 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 106.1 kN/m²
Modulus of subgrade K762: 53 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 9.3%
Plate recovery: 37%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 9.3 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.4

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.24	0.25	0.24	0.24
9.9	62.2	0.65	0.60	0.54	0.60
14.8	93.1	1.12	1.05	0.96	1.04
19.7	123.9	1.63	1.55	1.42	1.53
24.7	155.3	2.23	2.18	1.99	2.13
0.0	0.0	1.54	1.43	1.03	1.33

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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For and on behalf of CTS
Jack Betts - Project Manager



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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.5	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT02-5 CBR (53.4915316,-2.2332009)	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

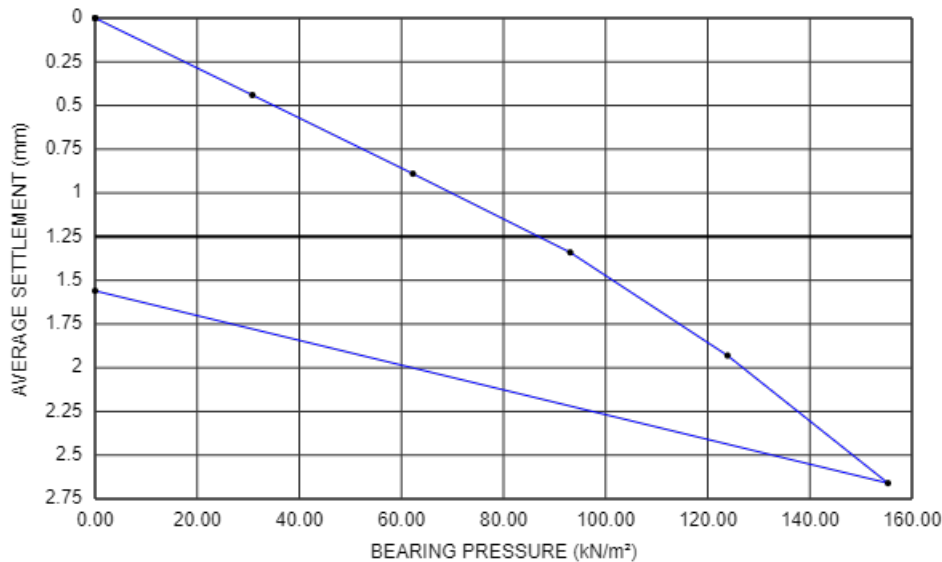
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 2.66 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 86.8 kN/m²
Modulus of subgrade K762: 43 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 6.6%
Plate recovery: 41%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.6 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.5

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.44	0.43	0.46	0.44
9.9	62.2	0.98	0.99	0.69	0.89
14.8	93.1	1.32	1.33	1.38	1.34
19.7	123.9	1.89	2.01	1.88	1.93
24.7	155.3	2.56	2.96	2.45	2.66
0.0	0.0	1.93	1.35	1.39	1.56

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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Jack Betts - Project Manager



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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.6	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT03-6CBR	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

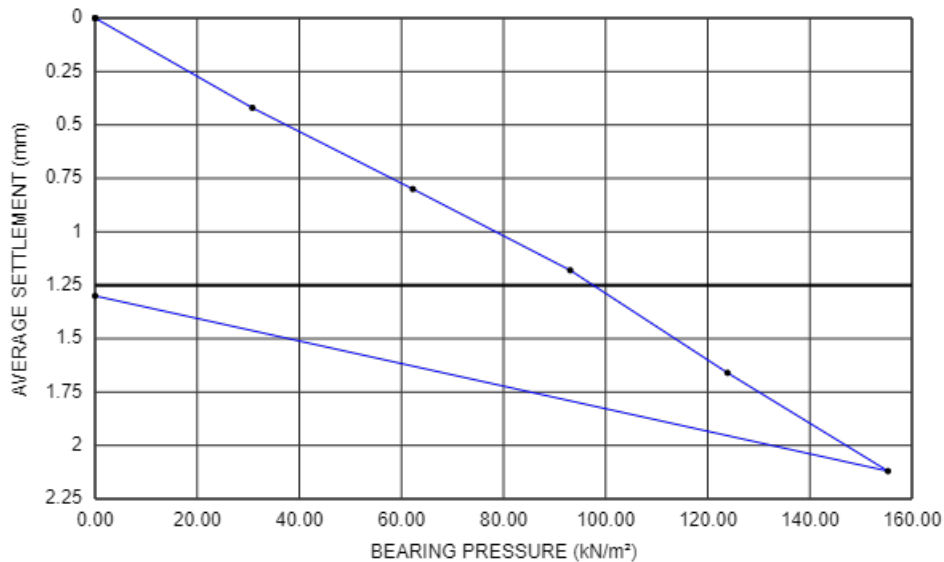
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 2.12 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 97.6 kN/m²
Modulus of subgrade K762: 49 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 8.1%
Plate recovery: 39%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 8.1 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.6

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.54	0.48	0.23	0.42
9.9	62.2	0.86	0.88	0.65	0.80
14.8	93.1	1.32	1.22	1.00	1.18
19.7	123.9	1.85	1.77	1.35	1.66
24.7	155.3	2.13	2.35	1.89	2.12
0.0	0.0	1.55	1.35	1.00	1.30

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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Jack Betts - Project Manager



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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.7	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Made Ground
LOCATION:	NT03-7 CBR	SUPPLIER:	Site Won
DEPTH OF TEST:	Surface	SOURCE:	Site Won
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

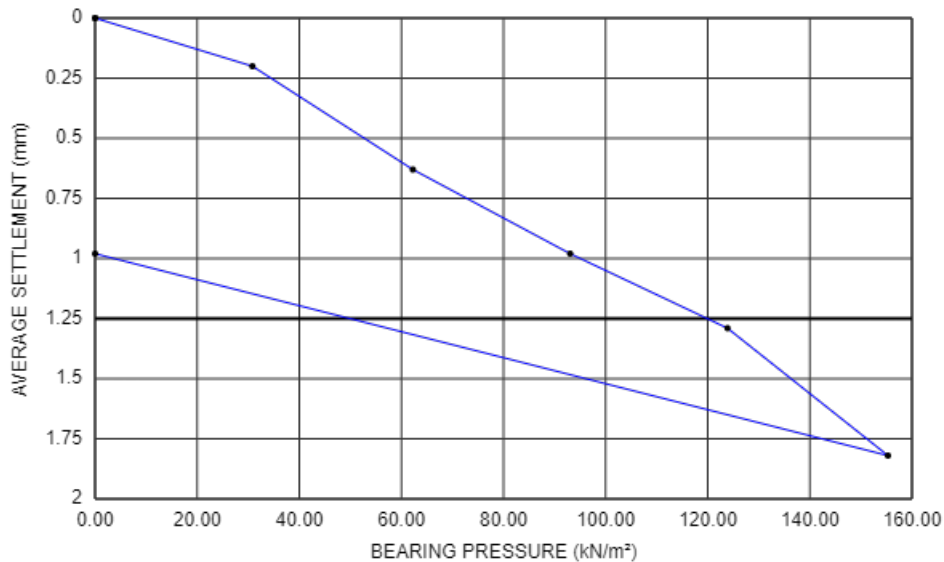
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.82 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 119.9 kN/m²
Modulus of subgrade K762: 60 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 11.6%
Plate recovery: 46%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 11.6 %

Remarks:

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Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.7

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.12	0.22	0.25	0.20
9.9	62.2	0.36	0.75	0.77	0.63
14.8	93.1	0.69	0.90	1.35	0.98
19.7	123.9	0.80	1.22	1.85	1.29
24.7	155.3	1.35	1.65	2.46	1.82
0.0	0.0	0.74	0.98	1.22	0.98

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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Jack Betts - Project Manager



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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.8	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Reddish Brown Clay
LOCATION:	NT04-8CBR	SUPPLIER:	Ex-Site
DEPTH OF TEST:	Surface	SOURCE:	Ex-Site
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

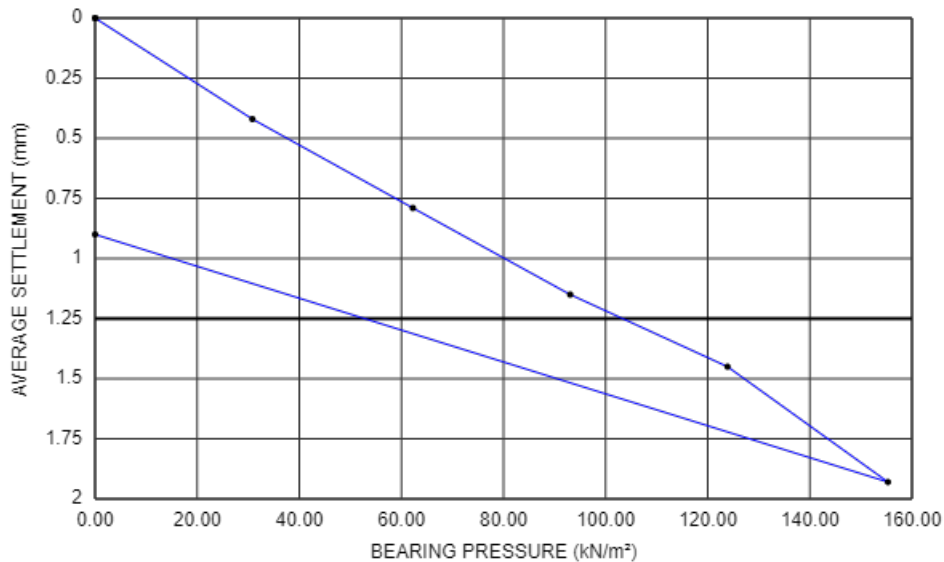
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.93 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 103.1 kN/m²
Modulus of subgrade K762: 51 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 8.9%
Plate recovery: 54%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 8.9 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.8

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.32	0.33	0.60	0.42
9.9	62.2	0.83	0.65	0.90	0.79
14.8	93.1	1.12	0.99	1.35	1.15
19.7	123.9	1.45	1.25	1.65	1.45
24.7	155.3	1.89	1.77	2.13	1.93
0.0	0.0	0.89	0.77	1.03	0.90

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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For and on behalf of CTS
Jack Betts - Project Manager



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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.9	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Reddish Brown Clay
LOCATION:	NT04-9CBR	SUPPLIER:	Ex-Site
DEPTH OF TEST:	Surface	SOURCE:	Ex-Site
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Sunny	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

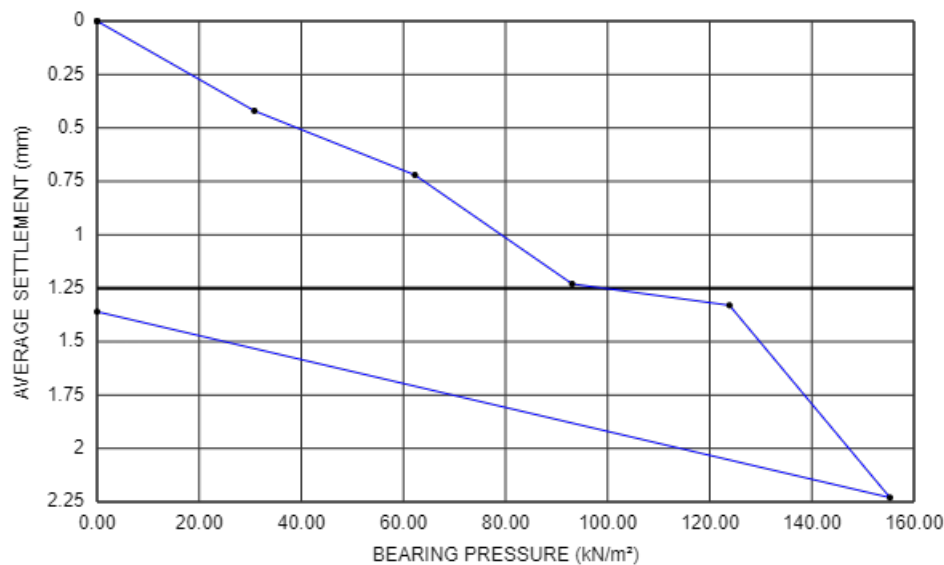
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 2.23 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 100.2 kN/m²
Modulus of subgrade K762: 50 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 8.5%
Plate recovery: 39%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 8.5 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.9

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.23	0.38	0.64	0.42
9.9	62.2	0.44	0.65	1.08	0.72
14.8	93.1	0.85	1.09	1.74	1.23
19.7	123.9	0.91	1.11	1.96	1.33
24.7	155.3	1.73	2.11	2.86	2.23
0.0	0.0	0.97	1.15	1.97	1.36

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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Jack Betts - Project Manager



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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.10
CLIENT REF: 1087613
DATE COMPLETED: 12/08/2024
TESTED BY: Connor Blundell
LOCATION: NT04-10 CBR
DEPTH OF TEST: Surface
DISTANCE FROM EDGE OF PLATE TO WALL: N/a
WEATHER: Clear
TEST METHOD: Incremental Plate Loading

CLIENT: Provectus Remediation Ltd
ADDRESS: Regent House , Bath Avenue , Wolverhampton , WV1 4EG
SITE: Central Manchester
MATERIAL: Reddish Brown Clay
SUPPLIER: Ex-Site
SOURCE: Ex-Site
SAMPLING PLAN: Client Specification
SAMPLE TAKEN: No

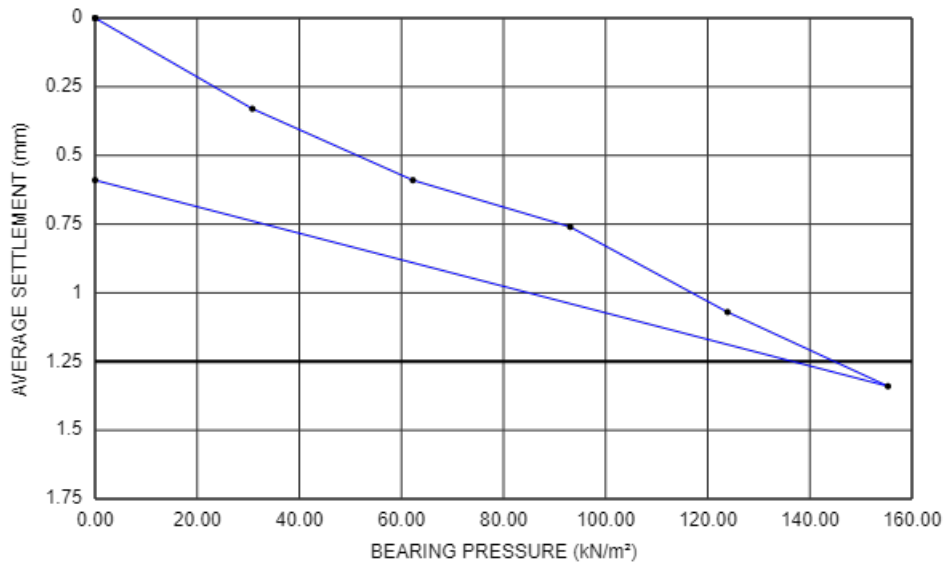
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.34 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 144.4 kN/m²
Modulus of subgrade K762: 72 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 16.0%
Plate recovery: 56%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 16.0 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.10

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.23	0.36	0.40	0.33
9.9	62.2	0.47	0.64	0.67	0.59
14.8	93.1	0.68	0.82	0.79	0.76
19.7	123.9	0.88	1.13	1.21	1.07
24.7	155.3	1.14	1.41	1.48	1.34
0.0	0.0	0.63	0.58	0.55	0.59

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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Report version 1



4161

Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.11	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Reddish Brown Clay
LOCATION:	NT04-11 CBR	SUPPLIER:	Ex-Site
DEPTH OF TEST:	Surface	SOURCE:	Ex-Site
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Clear	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

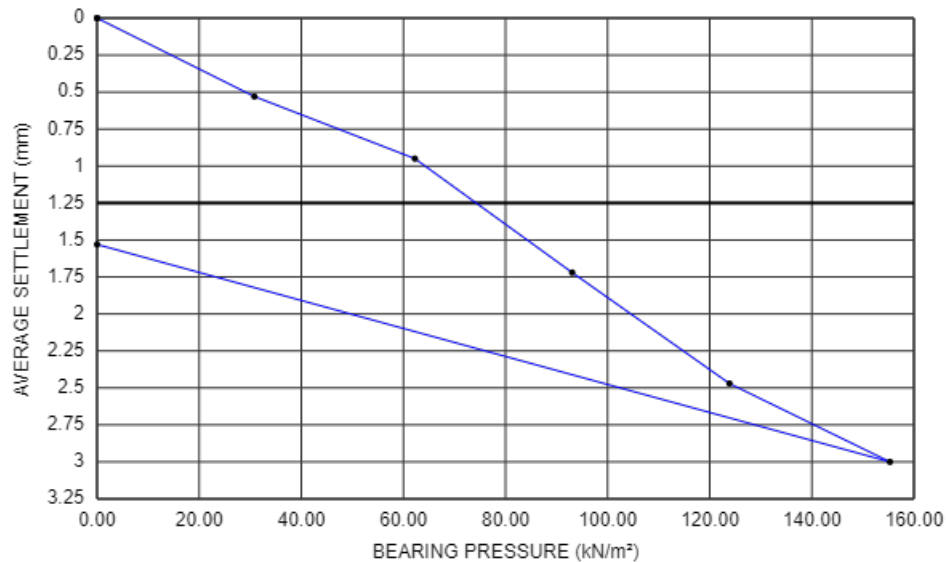
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 3.00 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 74.3 kN/m²
Modulus of subgrade K762: 37 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 5.0%
Plate recovery: 49%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 5.0 %

Remarks:

Test results reported relate only to the items tested.
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Report Format: STP S8 rev.1

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.11

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.55	0.72	0.33	0.53
9.9	62.2	0.93	1.30	0.61	0.95
14.8	93.1	1.71	2.31	1.14	1.72
19.7	123.9	2.44	3.28	1.69	2.47
24.7	155.3	2.96	3.85	2.20	3.00
0.0	0.0	1.49	1.45	1.65	1.53

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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END OF REPORT

For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
Report date 13-Aug-24

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Registered in England No. 05998333

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.12	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Reddish Brown Blay
LOCATION:	NT04-12 CBR	SUPPLIER:	Ex-Site
DEPTH OF TEST:	Surface	SOURCE:	Ex-Site
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Clear	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

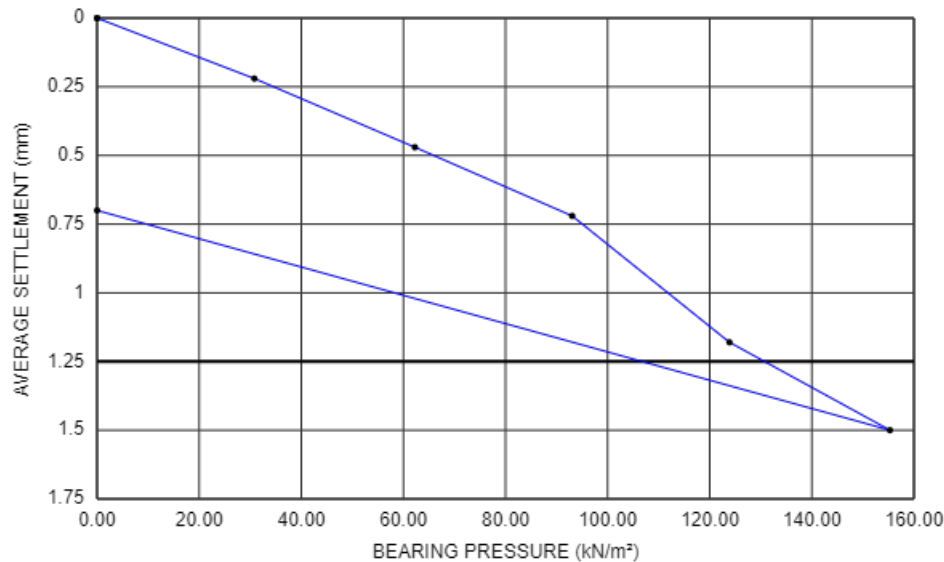
Equipment Details

Type of Kentledge: 20T
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.50 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 130.6 kN/m²
Modulus of subgrade K762: 65 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 13.4%
Plate recovery: 53%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 13.4 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.12

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.24	0.23	0.20	0.22
9.9	62.2	0.47	0.48	0.47	0.47
14.8	93.1	0.72	0.70	0.75	0.72
19.7	123.9	1.14	1.22	1.19	1.18
24.7	155.3	1.46	1.51	1.52	1.50
0.0	0.0	0.88	0.74	0.49	0.70

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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END OF REPORT

For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
Report date 13-Aug-24

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.13	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Reddish Brown Clay
LOCATION:	NT04-13 CBR	SUPPLIER:	Ex-Site
DEPTH OF TEST:	Surface	SOURCE:	Ex-Site
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Clear	SAMPLE TAKEN:	Yes
TEST METHOD:	Incremental Plate Loading		

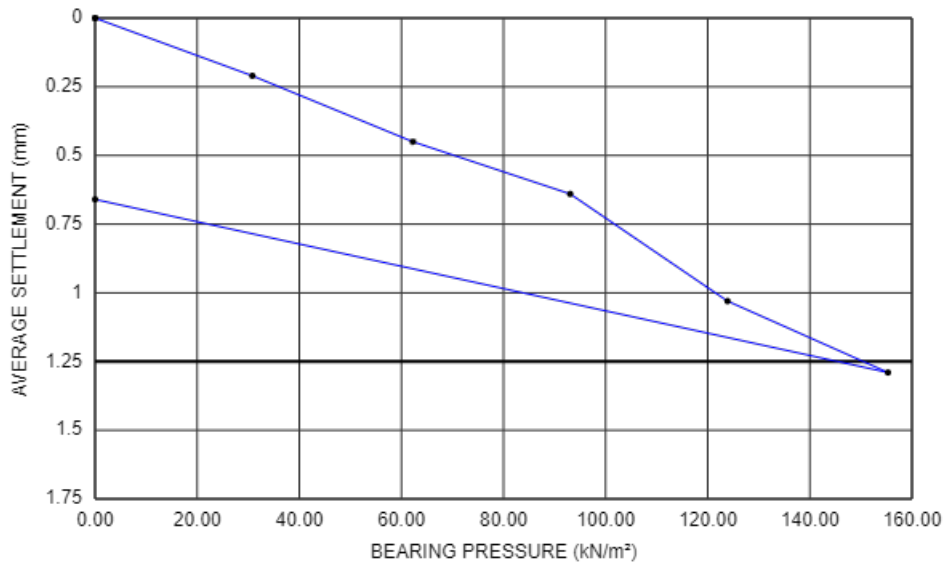
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.29 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 150.8 kN/m²
Modulus of subgrade K762: 75 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 17.2%
Plate recovery: 49%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 17.2 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.13

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.20	0.21	0.21	0.21
9.9	62.2	0.49	0.46	0.40	0.45
14.8	93.1	0.68	0.65	0.59	0.64
19.7	123.9	1.10	1.21	0.78	1.03
24.7	155.3	1.39	1.48	0.99	1.29
0.0	0.0	0.63	0.63	0.72	0.66

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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END OF REPORT

For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
Report date 13-Aug-24

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER:	C1087613 / 306430.1.1.14	CLIENT:	Provectus Remediation Ltd
CLIENT REF:	1087613	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
DATE COMPLETED:	12/08/2024	SITE:	Central Manchester
TESTED BY:	Connor Blundell	MATERIAL:	Reddish Brown Clay
LOCATION:	NT04-14 CBR (53.4917058,-2.2320111)	SUPPLIER:	Ex-Site
DEPTH OF TEST:	Surface	SOURCE:	Ex-Site
DISTANCE FROM EDGE OF PLATE TO WALL:	N/a	SAMPLING PLAN:	Client Specification
WEATHER:	Clear	SAMPLE TAKEN:	No
TEST METHOD:	Incremental Plate Loading		

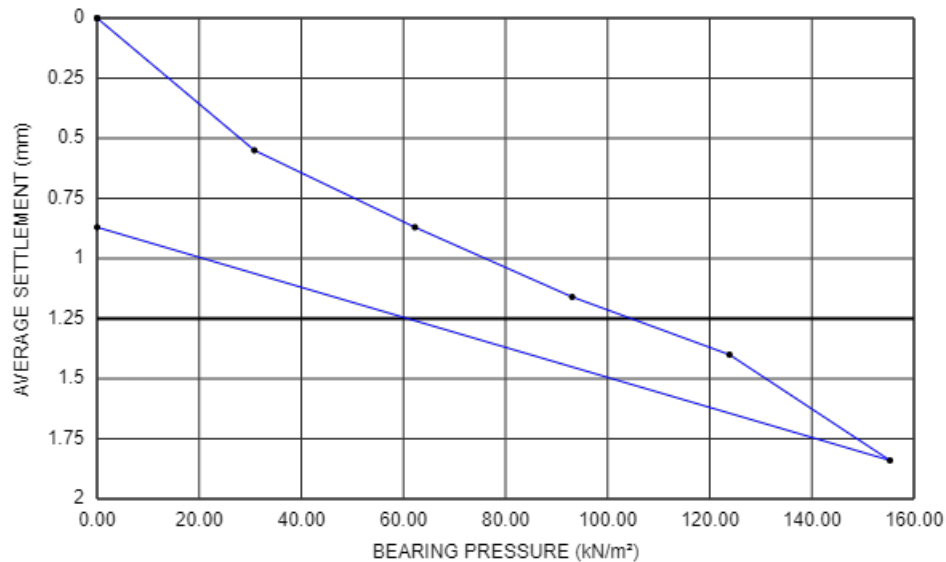
Equipment Details

Type of Kentledge: 20TN
Plate Diameter: 450 mm
Plate Area: 0.159043 m²
Plate Correction: 0.62

Results

Max applied pressure: 155 kN/m²
Max settlement: 1.84 mm
Avg Bearing Pressure (P) at 1.25mm settlement: 104.8 kN/m²
Modulus of subgrade K762: 52 kN/m²/mm
Equivalent C.B.R Value at 1.25mm settlement: 9.1%
Plate recovery: 53%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 9.1 %

Remarks:

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Estimation of California Bearing Ratio

Design Guidance for Road Pavement Foundations Interim Advice Note 73/06 Rev1

REPORT NUMBER: C1087613 / 306430.1.1.14

TEST RESULTS

LOAD APPLIED TO PLATE	AVERAGE BEARING PRESSURE	GAUGE SETTLEMENT			AVERAGE SETTLEMENT
		1	2	3	
kN	kN/m ²	mm			mm
0.0	0.0	0.00	0.00	0.00	0.00
4.9	30.8	0.30	0.36	0.99	0.55
9.9	62.2	0.50	0.69	1.42	0.87
14.8	93.1	0.80	0.88	1.80	1.16
19.7	123.9	0.90	1.12	2.17	1.40
24.7	155.3	1.30	1.33	2.89	1.84
0.0	0.0	0.90	0.82	0.88	0.87

Initial load applied by test equipment calculated to be less than 0.5 kN.

Remarks:

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END OF REPORT

For and on behalf of CTS
Jack Betts - Project Manager



Approved Signatory
Report date 13-Aug-24

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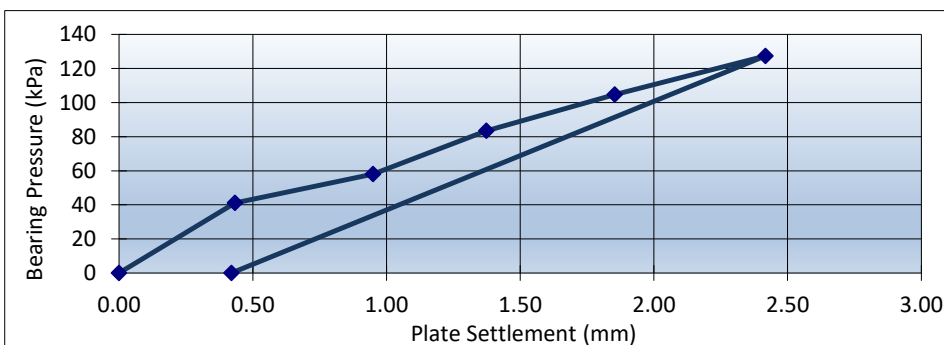
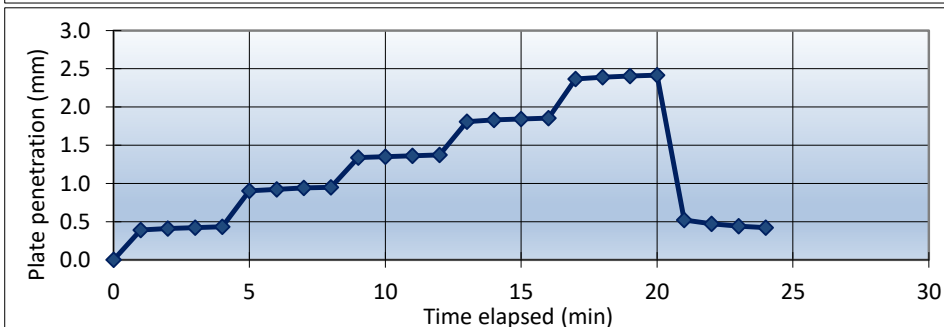
4161

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 1
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Recycled 6F2	Test Depth:	Formation
Visual Description:	Coarse-Fine Recycled Aggregate / Soil / Fines		
Weather:	Overcast	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
45.4	0.43
62.4	0.95
87.8	1.37
109.1	1.85
131.7	2.42
4.4	0.42
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	131.7
Maximum deformation (mm) :	2.42
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	61
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	27
Calculated Equivalent CBR (%) :	2.9
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

**Information supplied by customer may affect the validity of results



Wil-Test Solutions Limited Approved Signature
Phil Thorp, Commercial Manager

QSF-113 Rev-13 June 2024

Page 1 of 1

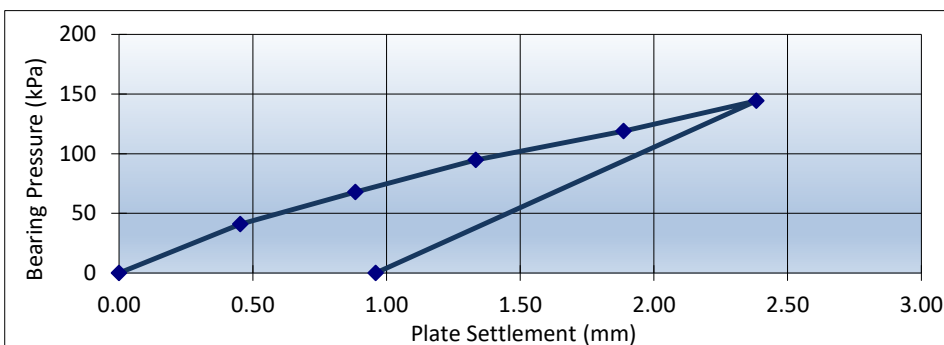
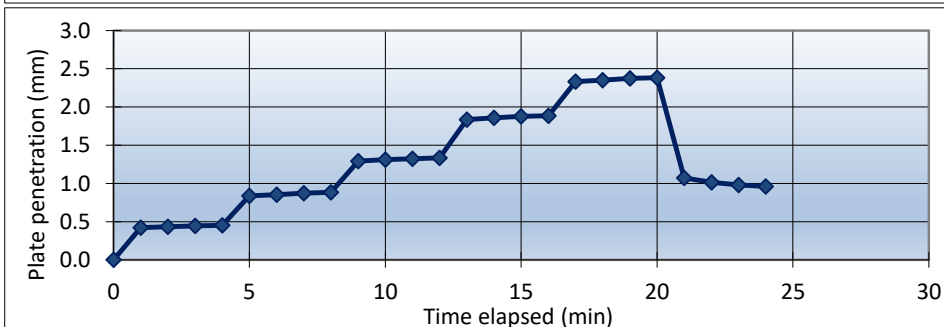
Telephone:- 01925 555850 Email:- info@wil-testolutionsltd.co.uk

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 3
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Recycled 6F2	Test Depth:	Formation
Visual Description:	Coarse-Fine Recycled Aggregate / Soil / Fines		
Weather:	Overcast	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
45.4	0.45
72.3	0.88
99.2	1.33
123.2	1.89
148.7	2.38
4.4	0.96
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	148.7
Maximum deformation (mm) :	2.38
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	72
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	32
Calculated Equivalent CBR (%) :	3.9
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

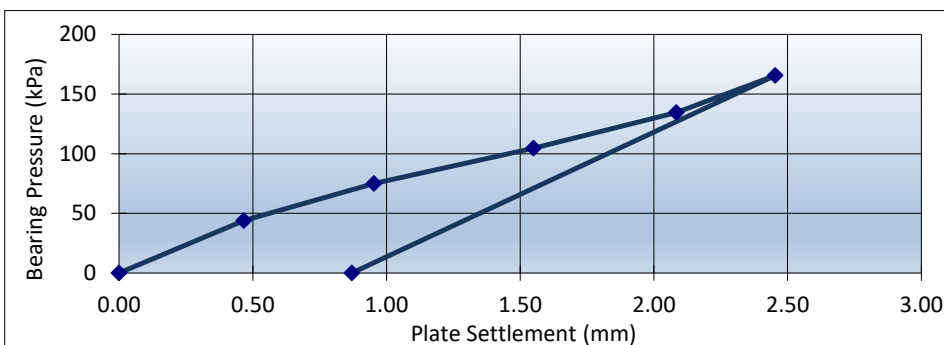
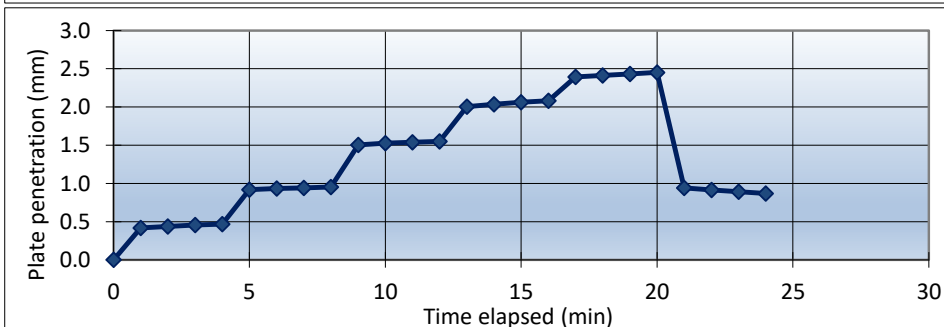
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 4
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Recycled 6F2	Test Depth:	Formation
Visual Description:	Coarse-Fine Recycled Aggregate / Soil / Fines		
Weather:	Overcast	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
48.2	0.47
79.3	0.95
109.1	1.55
138.8	2.08
169.9	2.45
4.4	0.87
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	169.9
Maximum deformation (mm) :	2.45
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	72
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	32
Calculated Equivalent CBR (%) :	3.9
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

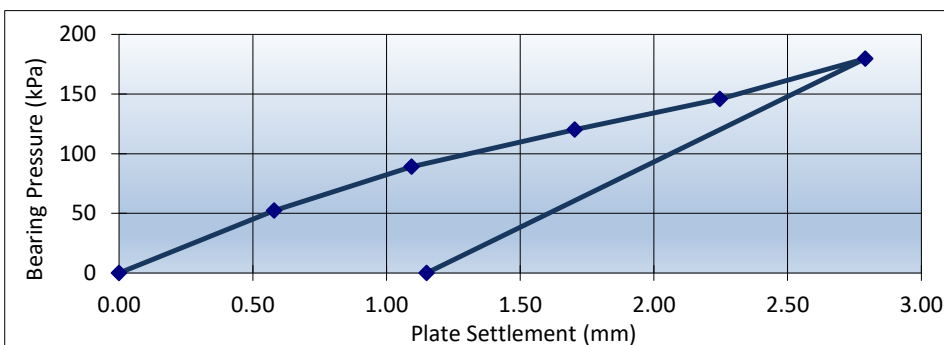
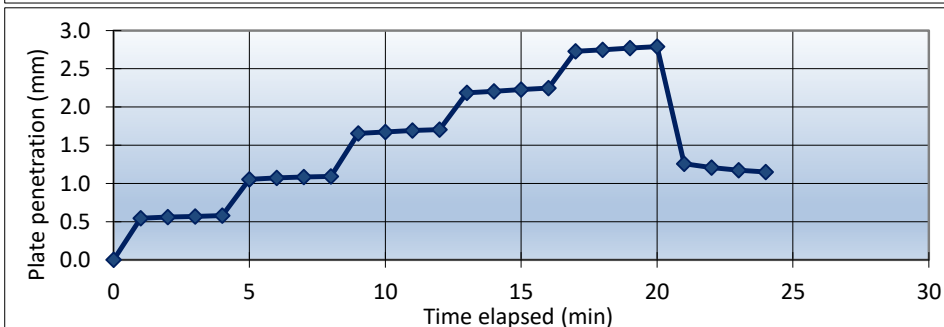
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 5
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Overcast	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
56.7	0.58
93.5	1.09
124.6	1.70
150.1	2.25
184.0	2.79
4.4	1.15
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	184.0
Maximum deformation (mm) :	2.79
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	78
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	34
Calculated Equivalent CBR (%) :	4.4
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

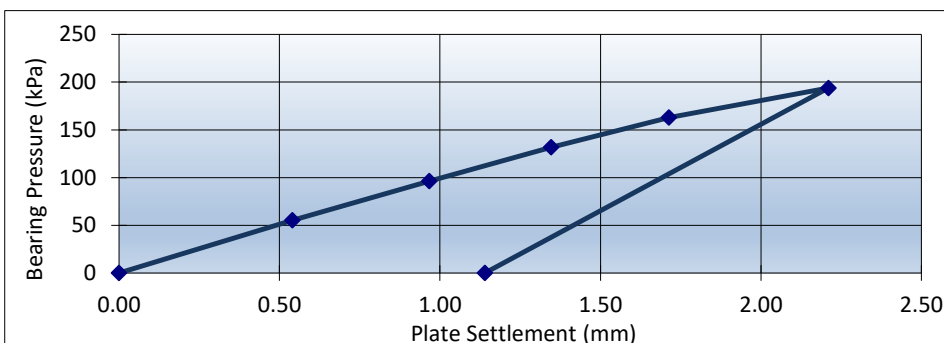
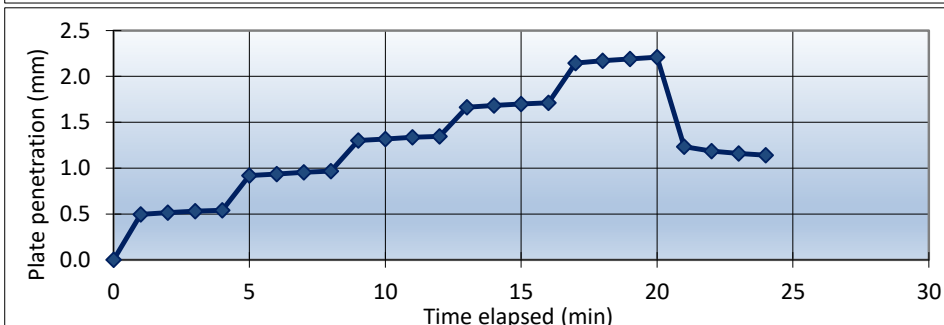
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 6
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Overcast	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
59.5	0.54
100.6	0.97
135.9	1.35
167.1	1.71
198.2	2.21
4.4	1.14
-	-
-	-
-	-
-	-
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Maximum Applied Pressure (kPa) :	198.2
Maximum deformation (mm) :	2.21
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	98
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	43
Calculated Equivalent CBR (%) :	6.6
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

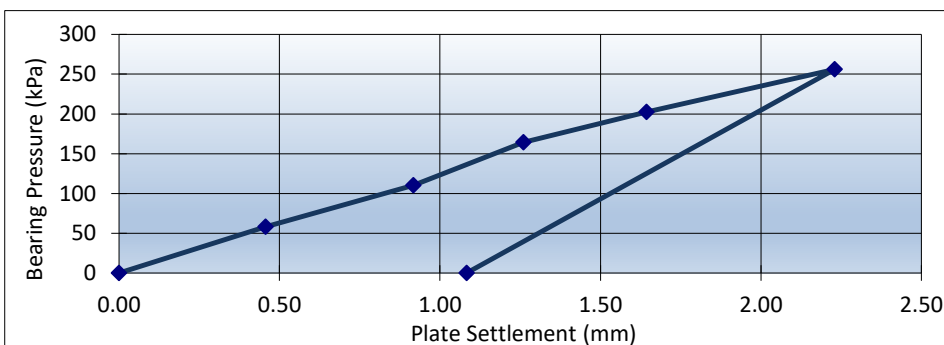
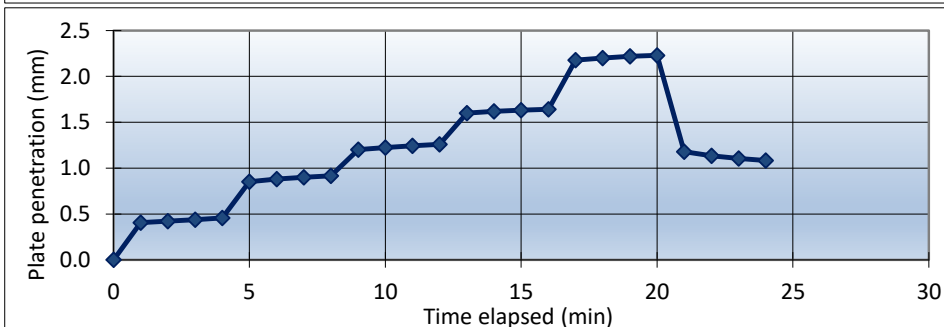
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 7
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
62.4	0.46
114.7	0.92
168.5	1.26
206.7	1.64
260.4	2.23
4.4	1.08
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	260.4
Maximum deformation (mm) :	2.23
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	130
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	57
Calculated Equivalent CBR (%) :	11
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

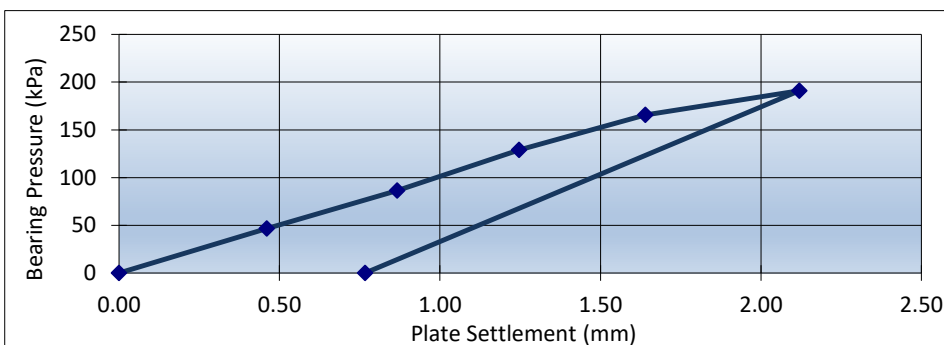
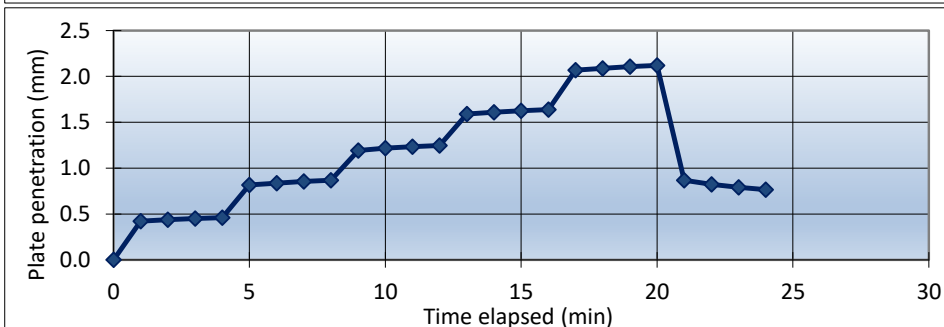
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LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 8
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Higher Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
51.1	0.46
90.7	0.87
133.1	1.25
169.9	1.64
195.4	2.12
4.4	0.77
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	195.4
Maximum deformation (mm) :	2.12
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	103
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	46
Calculated Equivalent CBR (%) :	7.2
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

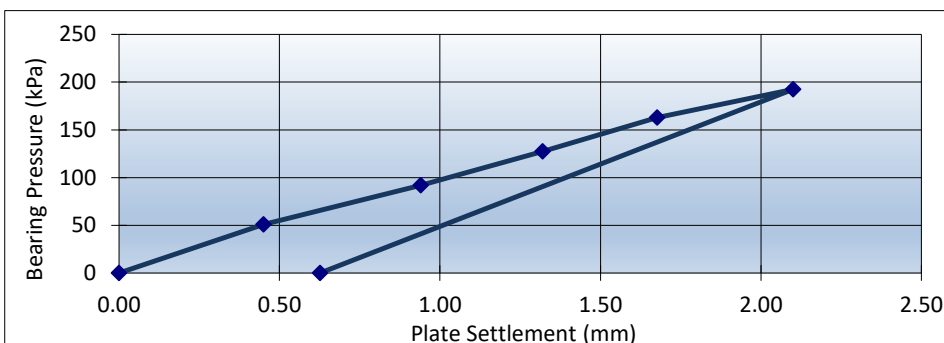
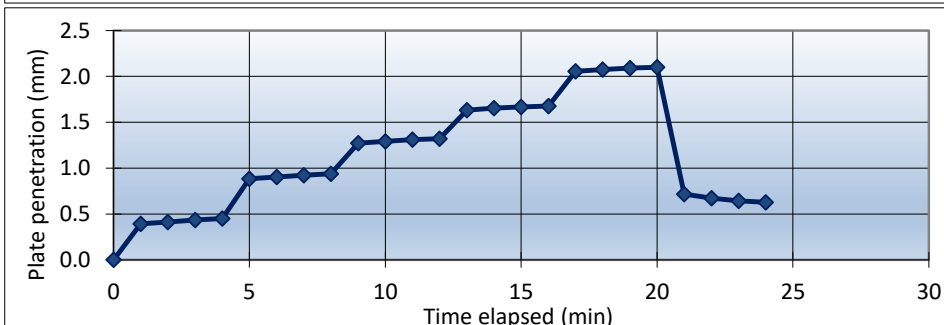
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LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 9
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Middle Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
55.3	0.45
96.3	0.94
131.7	1.32
167.1	1.68
196.8	2.10
4.4	0.63
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	196.8
Maximum deformation (mm) :	2.10
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	97
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	43
Calculated Equivalent CBR (%) :	6.5
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

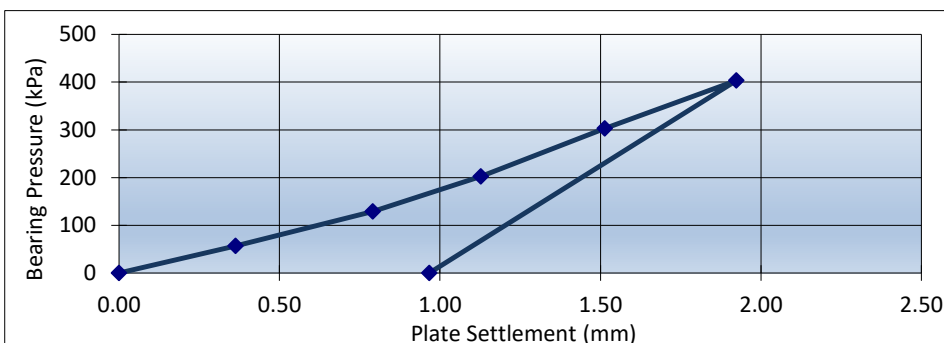
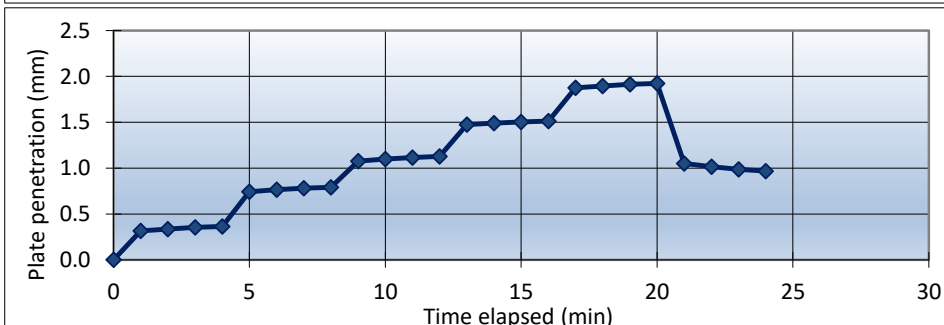
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LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 10
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Middle Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
61.0	0.36
133.1	0.79
206.7	1.13
307.1	1.51
407.6	1.92
4.4	0.97
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	407.6
Maximum deformation (mm) :	1.92
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	187
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	83
Calculated Equivalent CBR (%) :	20
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

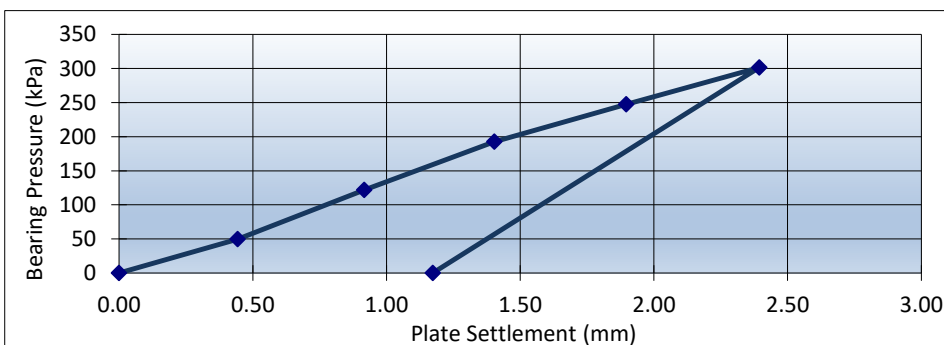
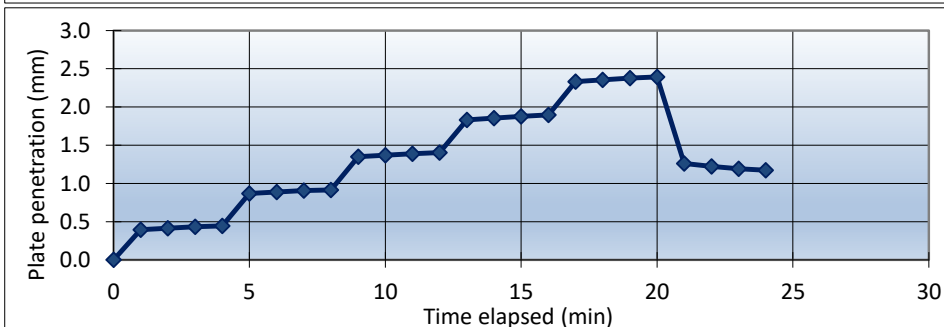
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LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 11
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Middle Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
53.9	0.44
126.0	0.92
196.8	1.40
251.9	1.90
305.7	2.39
4.4	1.17
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	305.7
Maximum deformation (mm) :	2.39
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	136
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	60
Calculated Equivalent CBR (%) :	12
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

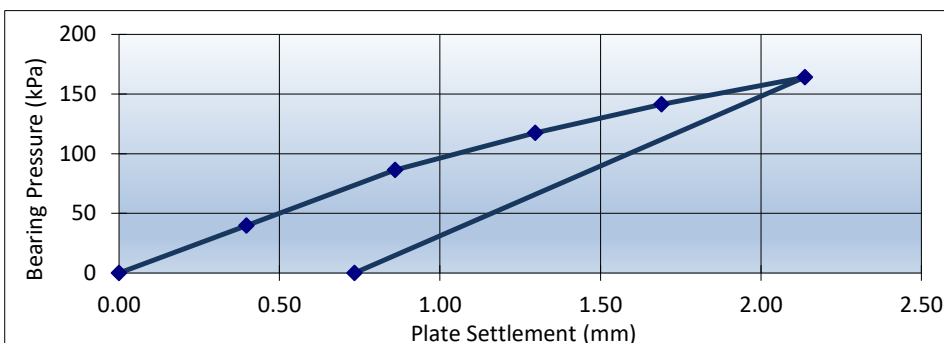
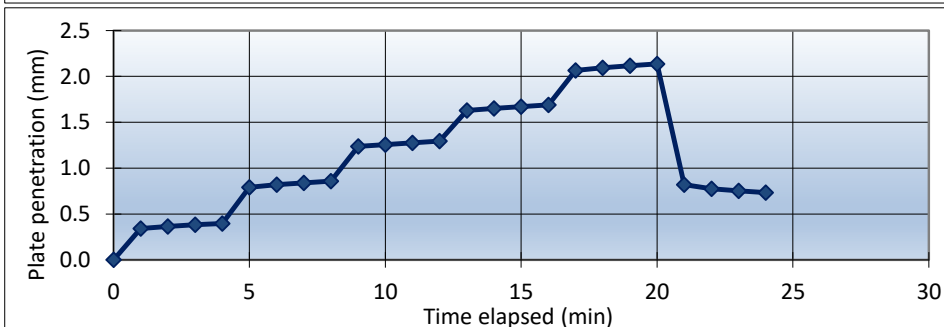
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 12
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Lower Level		
**Material:	Sandy Clay / Gravel	Test Depth:	Formation
Visual Description:	Sandy Clay / Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
44.0	0.40
90.7	0.86
121.8	1.30
145.8	1.69
168.5	2.14
4.4	0.73
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	168.5
Maximum deformation (mm) :	2.14
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	91
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	40
Calculated Equivalent CBR (%) :	5.8
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

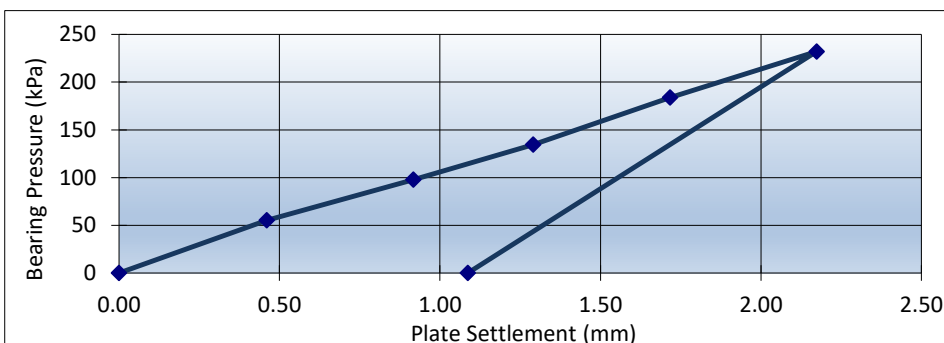
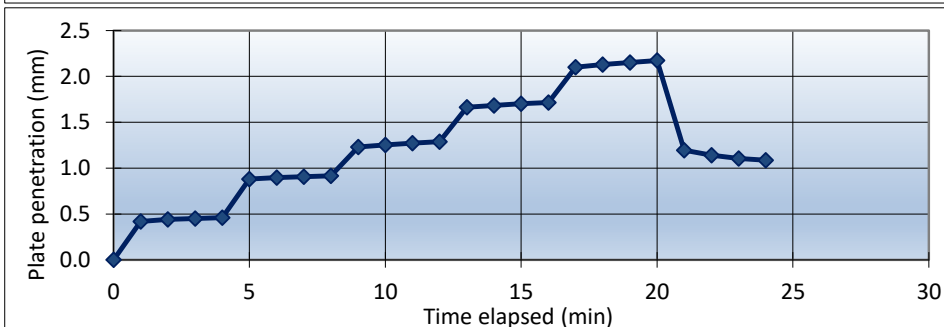
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LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 13
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Lower Level		
**Material:	Clay Sand Gravel	Test Depth:	Formation
Visual Description:	Clay Sand Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
59.5	0.46
102.0	0.92
138.8	1.29
188.3	1.72
236.4	2.17
4.4	1.09
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	236.4
Maximum deformation (mm) :	2.17
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	104
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	46
Calculated Equivalent CBR (%) :	7.4
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

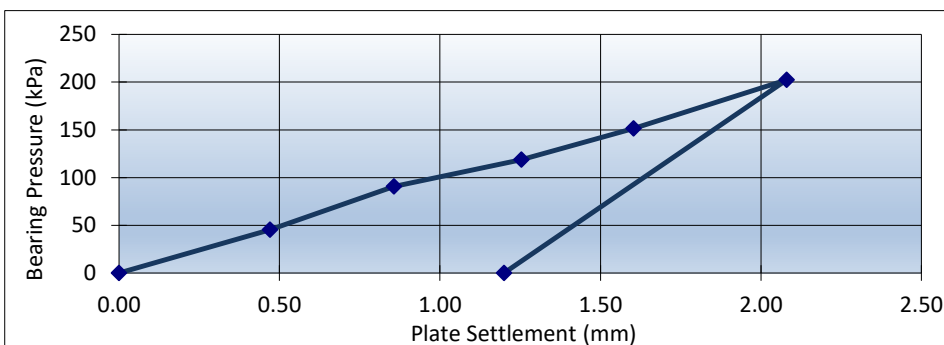
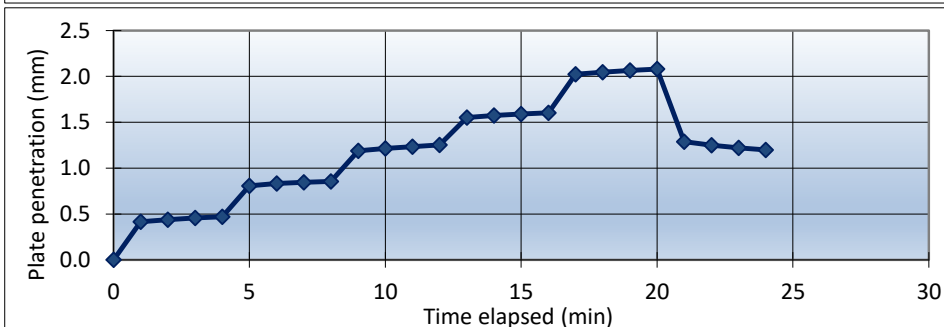
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Manchester	Contract No.	C0380/1
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2273
	Dantzic Street	Test Ref :	Test 14
	Manchester	Date Tested :	05/09/2024
	0	Date Reported :	09/09/2024
Originator :	David Knapp	Technician :	Liam Williams

**Test Location:	Lower Level		
**Material:	Clay Sandy Gravel	Test Depth:	Formation
Visual Description:	Clay Sandy Gravel		
Weather:	Sunny	Reaction Load:	21ton Exc



Pressure (kPa)	Deformation (mm)
4.4	0.00
49.6	0.47
94.9	0.86
123.2	1.25
155.7	1.60
206.7	2.08
4.4	1.20
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	206.7
Maximum deformation (mm) :	2.08
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	95
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	42
Calculated Equivalent CBR (%) :	6.2
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

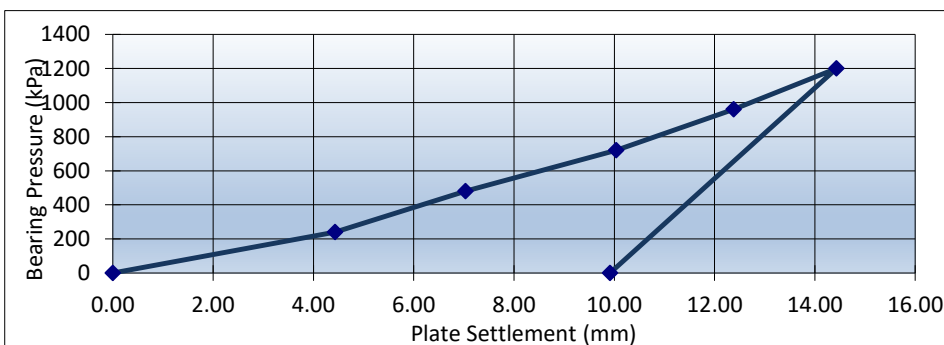
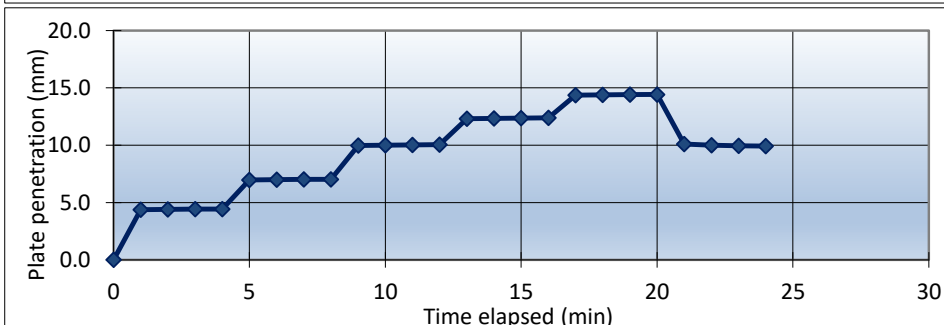
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Dantzic Street, Manchester	Contract No.	C0380/4
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2443
	Dantzic Street	Test Ref :	Test 1
	Manchester	Date Tested :	04/11/2024
	M4 4DD	Date Reported :	05/11/2024
Originator :	Liam Craddock	Technician :	Cameron Davies

**Test Location:	Location 1		
**Material:	Type 1 Sub Base	Test Depth:	Surface
Visual Description:	Medium to Fine Crushed Limestone		
Weather:	Overcast	Reaction Load:	35t Excavator



Pressure (kPa)	Deformation (mm)
3.4	0.00
243.9	4.43
483.0	7.03
723.5	10.04
964.0	12.38
1203.1	14.43
3.4	9.91
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	1203.1
Maximum deformation (mm) :	14.43
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	54
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	24
Calculated Equivalent CBR (%) :	2.4
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

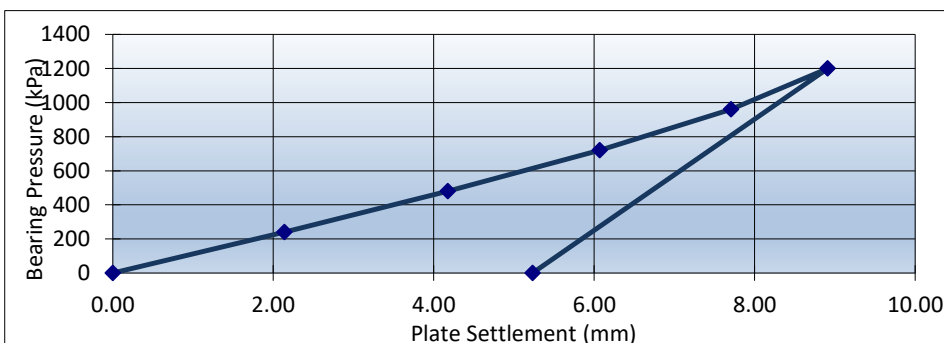
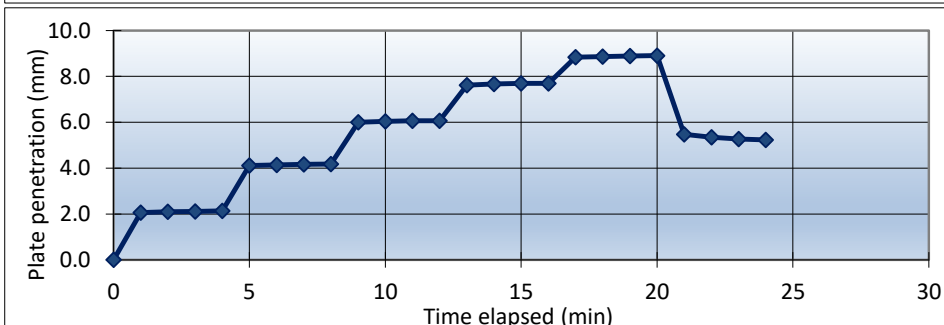
**Information supplied by customer may affect the validity of results

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Dantzic Street, Manchester	Contract No.	C0380/4
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2443
	Dantzic Street	Test Ref :	Test 2
	Manchester	Date Tested :	04/11/2024
	M4 4DD	Date Reported :	05/11/2024
Originator :	Liam Craddock	Technician :	Cameron Davies

**Test Location:	Location 3		
**Material:	Type 1 Sub Base	Test Depth:	Surface
Visual Description:	Medium to Fine Crushed Limestone		
Weather:	Overcast	Reaction Load:	35t Excavator



Pressure (kPa)	Deformation (mm)
3.4	0.00
243.9	2.14
483.0	4.18
723.5	6.07
964.0	7.70
1203.1	8.91
3.4	5.23
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	1203.1
Maximum deformation (mm) :	8.91
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	113
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	50
Calculated Equivalent CBR (%) :	8.4
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

**Information supplied by customer may affect the validity of results



Wil-Test Solutions Limited Approved Signature
Phil Thorp, Commercial Manager

QSF-113 Rev-13 June 2024

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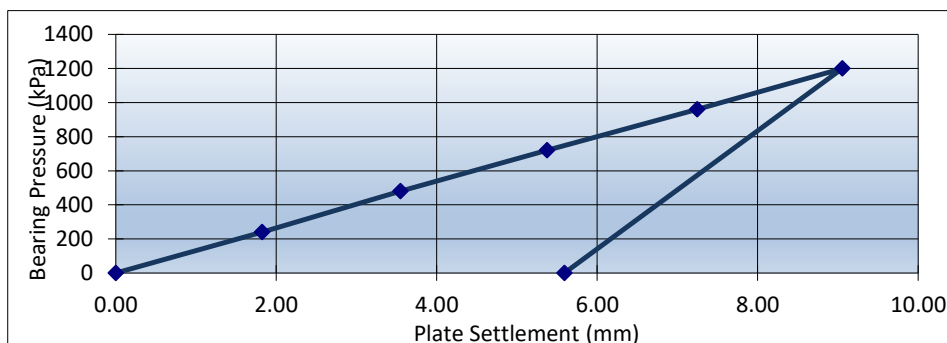
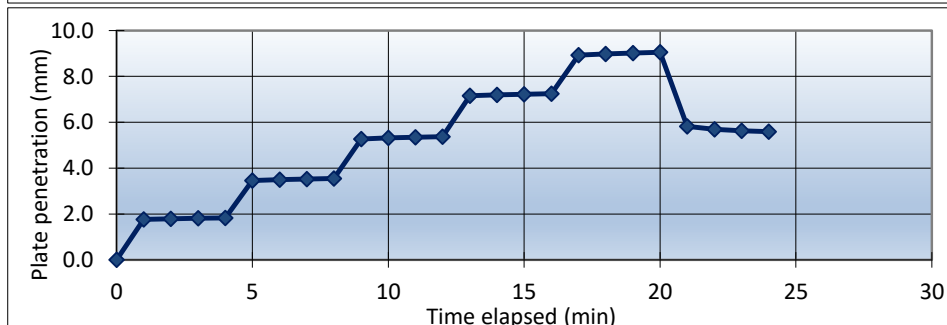
Telephone:- 01925 555850 Email:- info@wil-testolutionsltd.co.uk

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Dantzic Street, Manchester	Contract No.	C0380/4
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2443
	Dantzic Street	Test Ref :	Test 4
	Manchester	Date Tested :	04/11/2024
	M4 4DD	Date Reported :	05/11/2024
Originator :	Liam Craddock	Technician :	Cameron Davies

**Test Location:	Location 4		
**Material:	Type 1 Sub Base	Test Depth:	Surface
Visual Description:	Medium to Fine Crushed Limestone		
Weather:	Overcast	Reaction Load:	35t Excavator



Pressure (kPa)	Deformation (mm)
3.4	0.00
243.9	1.82
483.0	3.55
723.5	5.37
964.0	7.25
1203.1	9.05
3.4	5.59
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	1203.1
Maximum deformation (mm) :	9.05
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	132
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	58
Calculated Equivalent CBR (%) :	11
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

**Information supplied by customer may affect the validity of results



Wil-Test Solutions Limited Approved Signature
Phil Thorp, Commercial Manager

QSF-113 Rev-13 June 2024

Page 1 of 1

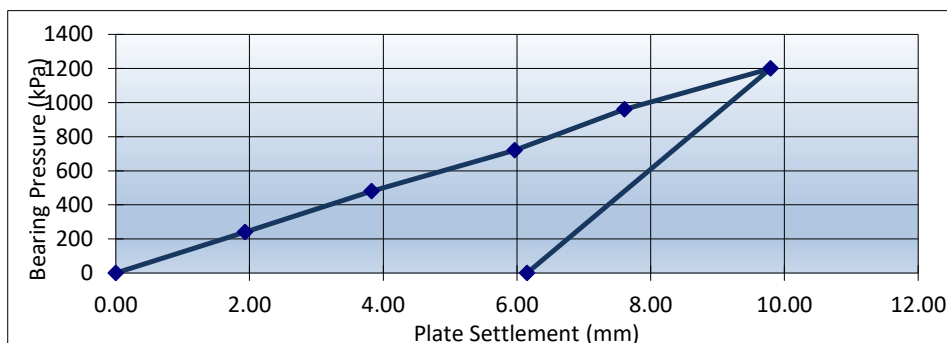
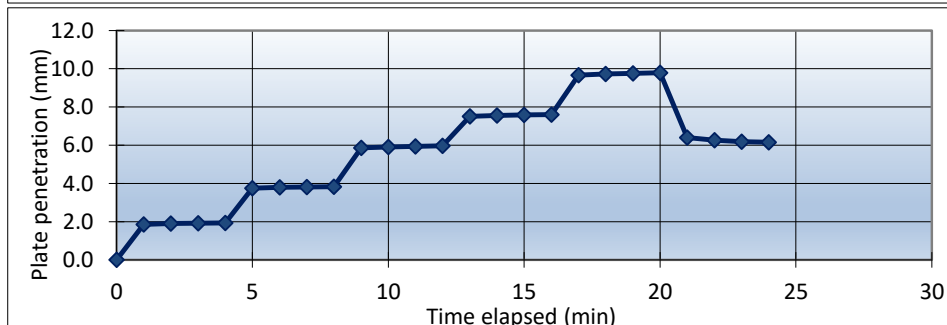
Telephone:- 01925 555850 Email:- info@wil-testolutionsltd.co.uk

LABORATORY TEST REPORT

Determination of the vertical deformation and strength characteristics of soil by the incremental plate loading

Project :	Dantzic Street, Manchester	Contract No.	C0380/4
Client :	Provectus Remediation Limited	Lab Ref No.	SR-2443
	Dantzic Street	Test Ref :	Test 5
	Manchester	Date Tested :	04/11/2024
	M4 4DD	Date Reported :	05/11/2024
Originator :	Liam Craddock	Technician :	Cameron Davies

**Test Location:	Location 2		
**Material:	Type 1 Sub Base	Test Depth:	Surface
Visual Description:	Medium to Fine Crushed Limestone		
Weather:	Overcast	Reaction Load:	35t Excavator



Pressure (kPa)	Deformation (mm)
3.4	0.00
243.9	1.93
483.0	3.83
723.5	5.96
964.0	7.61
1203.1	9.79
3.4	6.15
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Maximum Applied Pressure (kPa) :	1203.1
Maximum deformation (mm) :	9.79
Plate Diameter (mm) :	300
Modulus of subgrade reaction K (kPa/mm) :	125
Modulus of Subgrade Reaction K_{762} (kPa/mm) :	55
Calculated Equivalent CBR (%) :	10
Water Content (%) :	Not Required

The stated result only relates to the item/location tested, this report shall not be reproduced except in full.

Values K_{762} , K and CBR(%) calculated in accordance with Interim Advice Note 73/06 (Draft HD25): 2009

Incremental Loading Test - Tested in accordance with BS 1377-9: 1990: Clause 4.1.6.4.2

Water Content - Tested in accordance with BS 17892-1: 2014 + A1: 2022

**Information supplied by customer may affect the validity of results



Wil-Test Solutions Limited Approved Signature
Phil Thorp, Commercial Manager

QSF-113 Rev-13 June 2024

Page 1 of 1

Telephone:- 01925 555850 Email:- info@wil-testssolutionsltd.co.uk

Laboratory Report		DNR/141063		Contract Sample No		DN6381		 Construction Testing Solutions	
Report Date		02/09/2024		ETS Contract No		DN6381/12		 UKAS TESTING 4161	
Regent House Bath Avenue Wolverhampton WV1 4EG Dantzic St, Manchester		Material Description		Made Ground		Bootham Lane Industrial Estate Dunscroft Doncaster DN7 4JU Tel: (01302) 352652 Email: enquiries@constructiontesting.co.uk Web: www.constructiontesting.co.uk			
		Source		Site Won					
		Supplier		Site Won					
		Date Sampled		12/08/24					
		Date Received		12/08/24					
		Date of Test		13/08/24					
		Sample Location		See Below					
		Client Reference		DN6381/12					
		Weather Conditions		Sunny		<h1>Test Report</h1>			

Insitu Density & Moisture Content - Sand Replacement Tests
Tested in accordance with BS 1377: 1990: Part 9: Clause 2.2



Victoria North NT02 to NT04

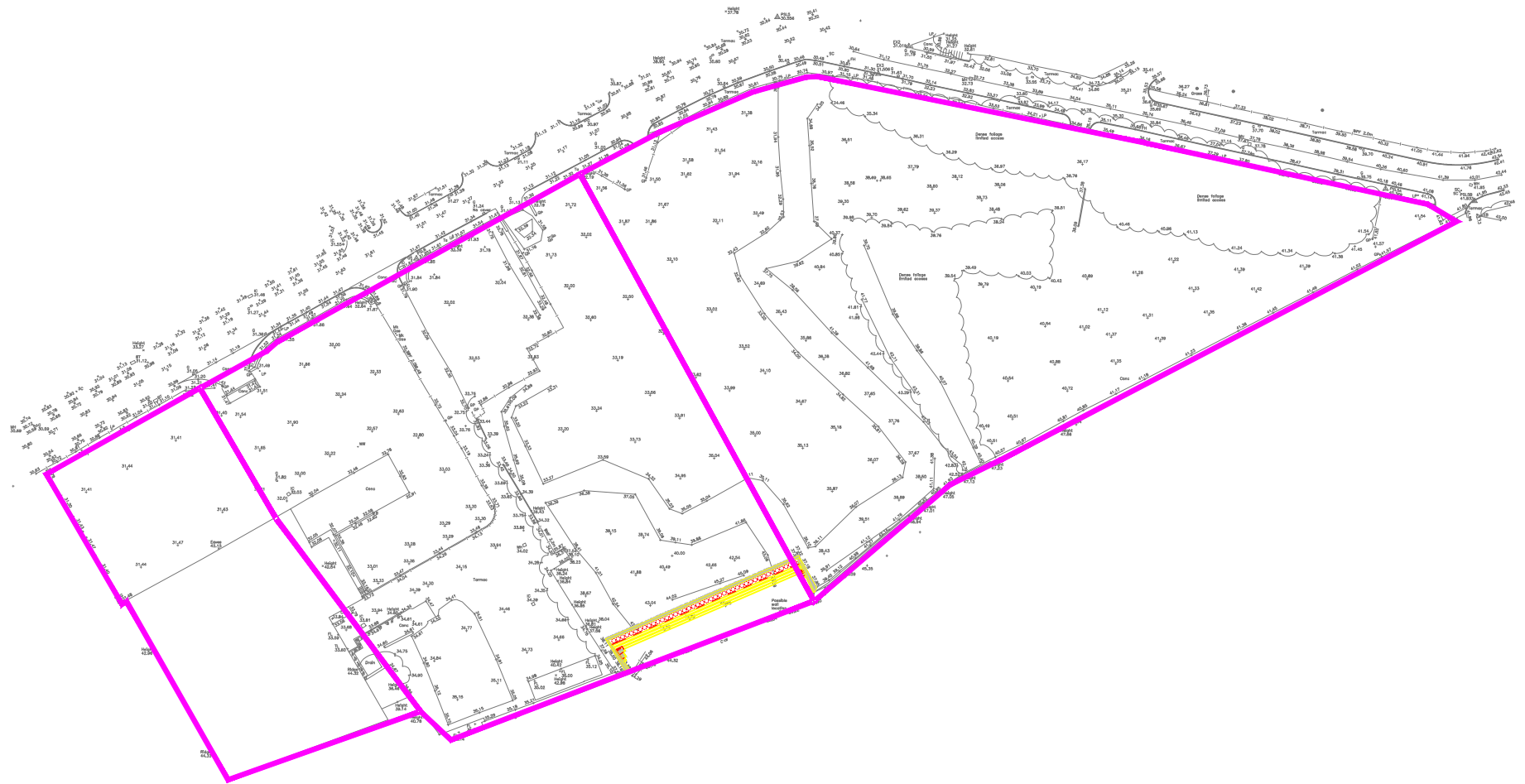
Factual report covering works April to October 2024

Appendix D

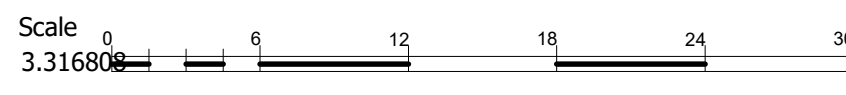
Site drawings

- Da: site surface prior to start of works**
- Db: completed site surface (includes temporary works)**
- Dc: location of materials with hazardous classification**
- Dd: additional expected & unexpected works, NT02 & NT03**
additional expected & unexpected works, NT03 & NT04
- De: CBR, SRD and deformation plate locations**
- Df: Location of buried obstructions, N portion NT02**
Location of buried obstructions, mid portion NT02
Location of buried obstructions, S portion of NT02
Location of buried obstructions, NT03
Location of buried obstructions, NT04
- Dh: export sample locations**
- Di: cut & fill volumes**
- Dj: Earthworks: sources and destinations of soil materials**
- Dk: Earthworks: sources and destinations of soil materials,**
permanent works vs temporary works

Provectus Remediation
Manchester Victoria NT02 to NT04
Site surface prior to start of works
May to November 2024

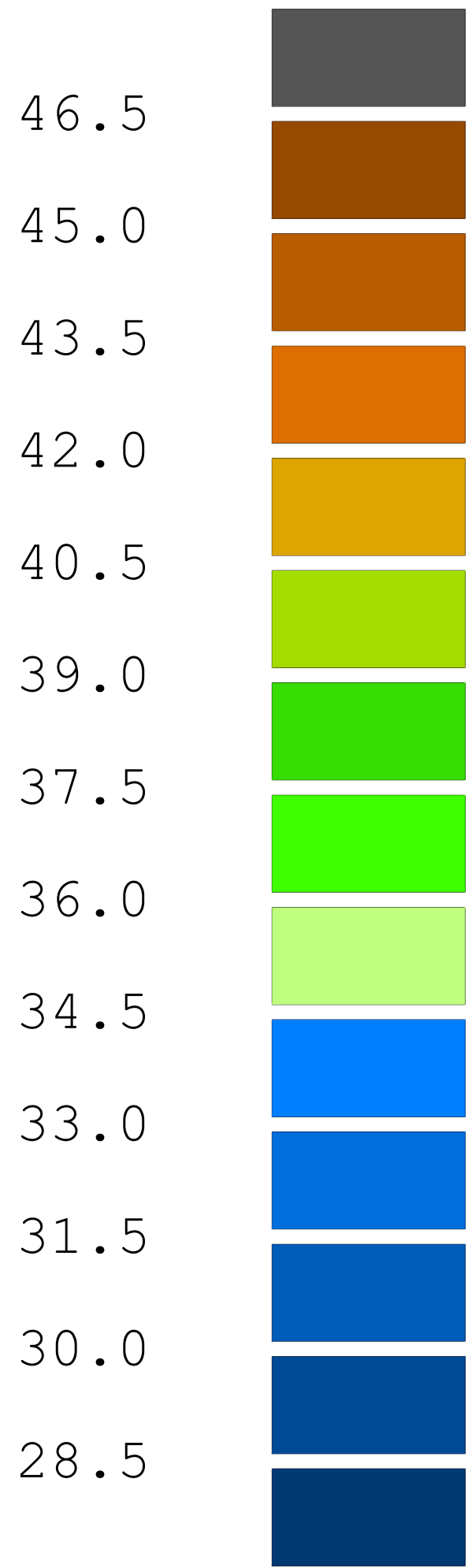
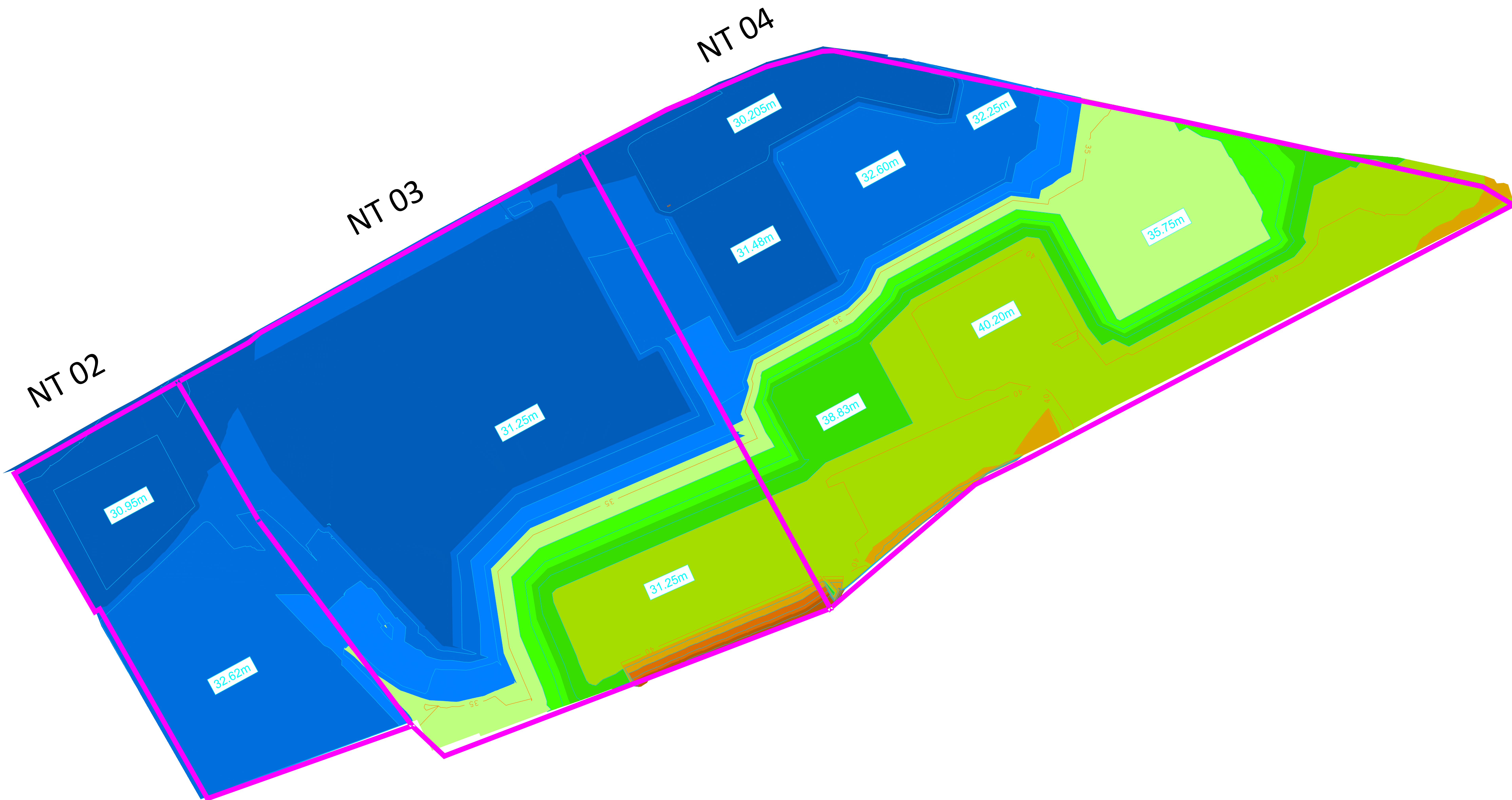


Site Surface - Manchester North



Notes:

Height ranges



1-Comment					
P01	B Opreku	10/12/24	B Opreku	10/12/24	B Skellawa

Comment					
Rev	Created By	Date	Checked By	Date	Approved By

Issue #	Issued Office
3.316808	WOLVERHAMPTON

Client Approval	
A - Approved	
B - Approved With Comments	
C - Do Not Use	

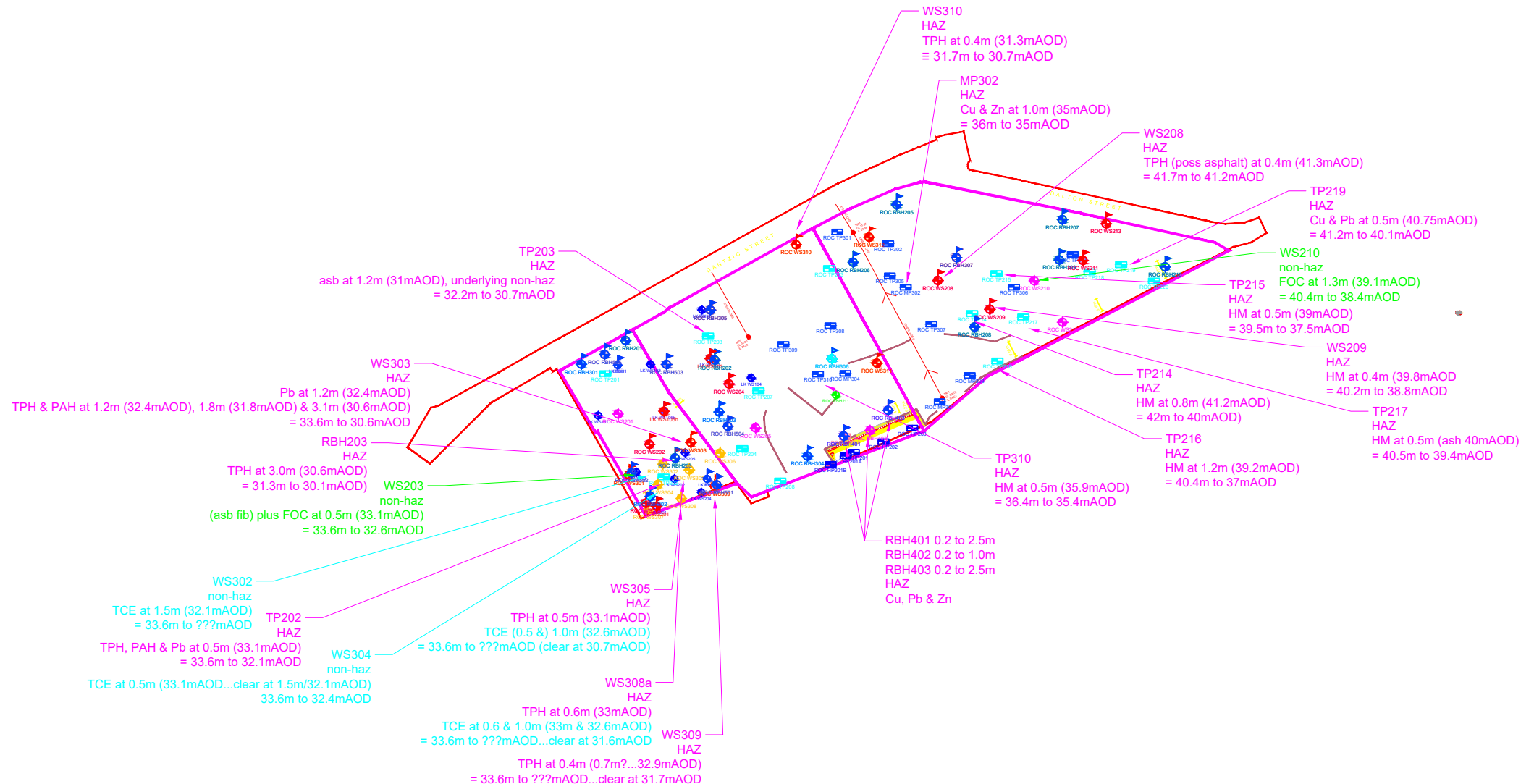
Status	Purpose of Issue
S3	For Internal Review



Project
MAMHCESTER NORTH

Title
FINISH LEVELS by
PROVECTUS

May to November 2024

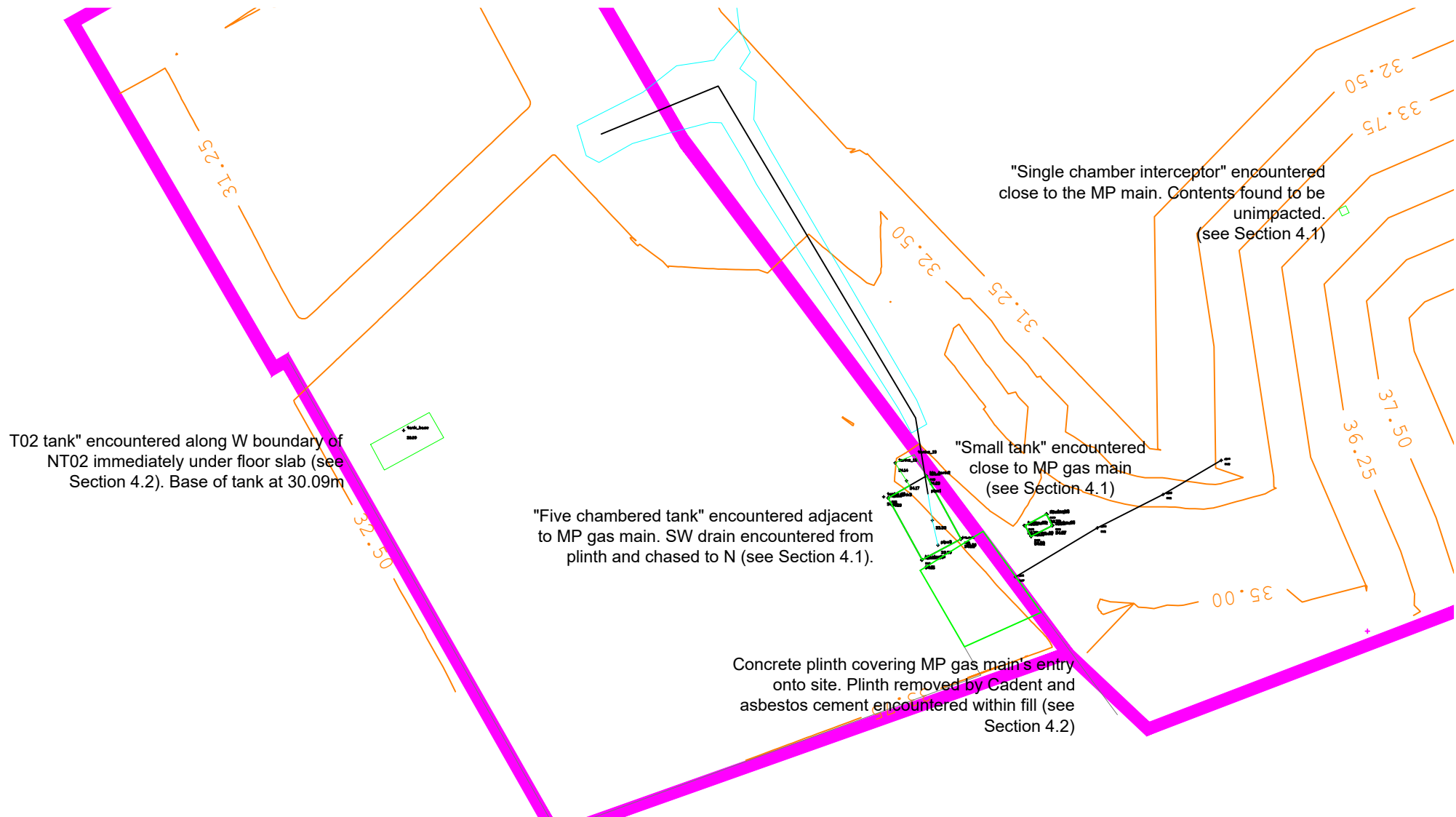


Provectus Remediation

Manchester Victoria NT02 to NT04

Location of additional expected and unexpected works: NT02 and NT03

May to November 2024

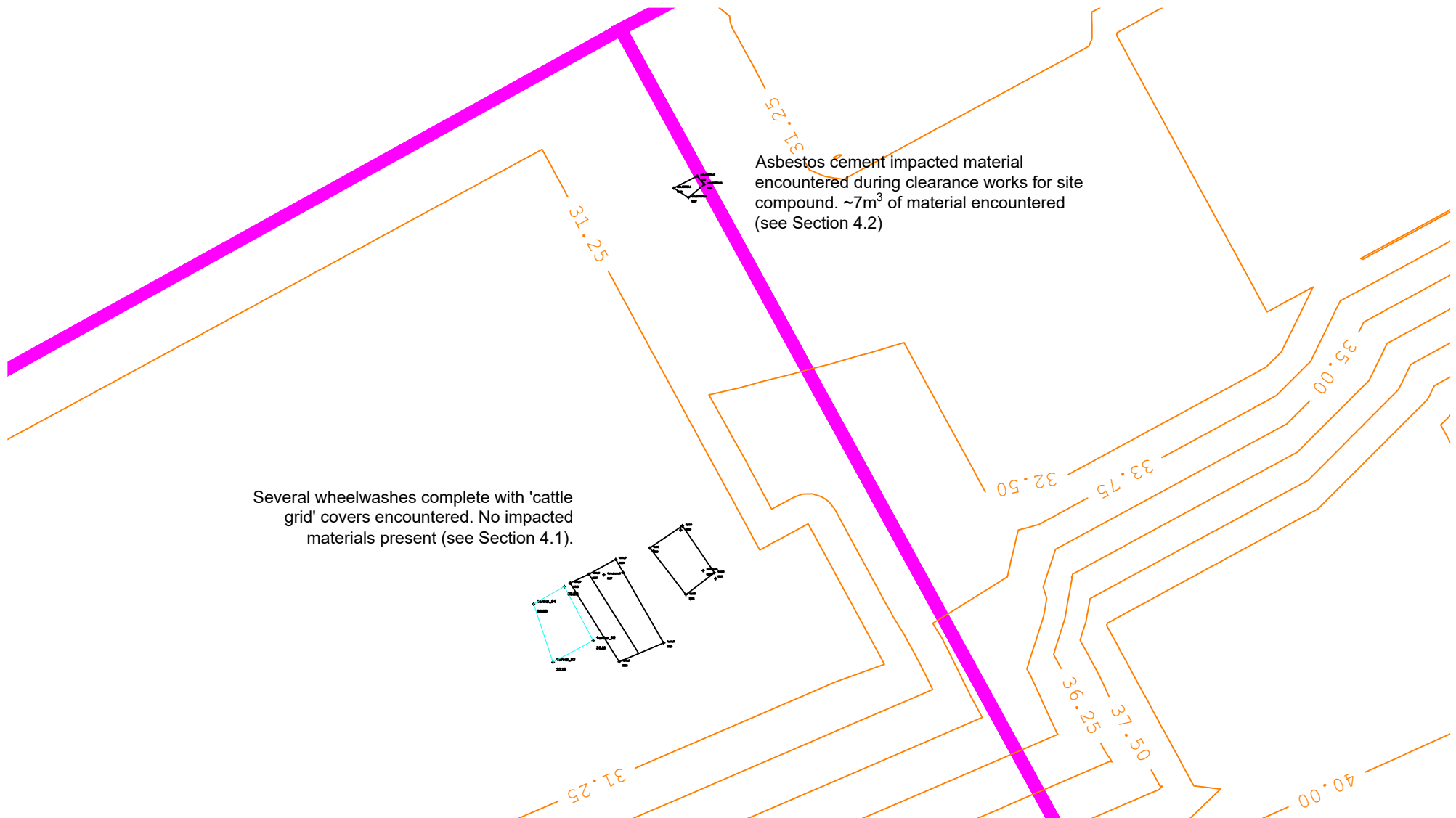


Provectus Remediation

Manchester Victoria NT02 to NT04

Location of additional expected and unexpected works: NT03 and NT04

May to November 2024

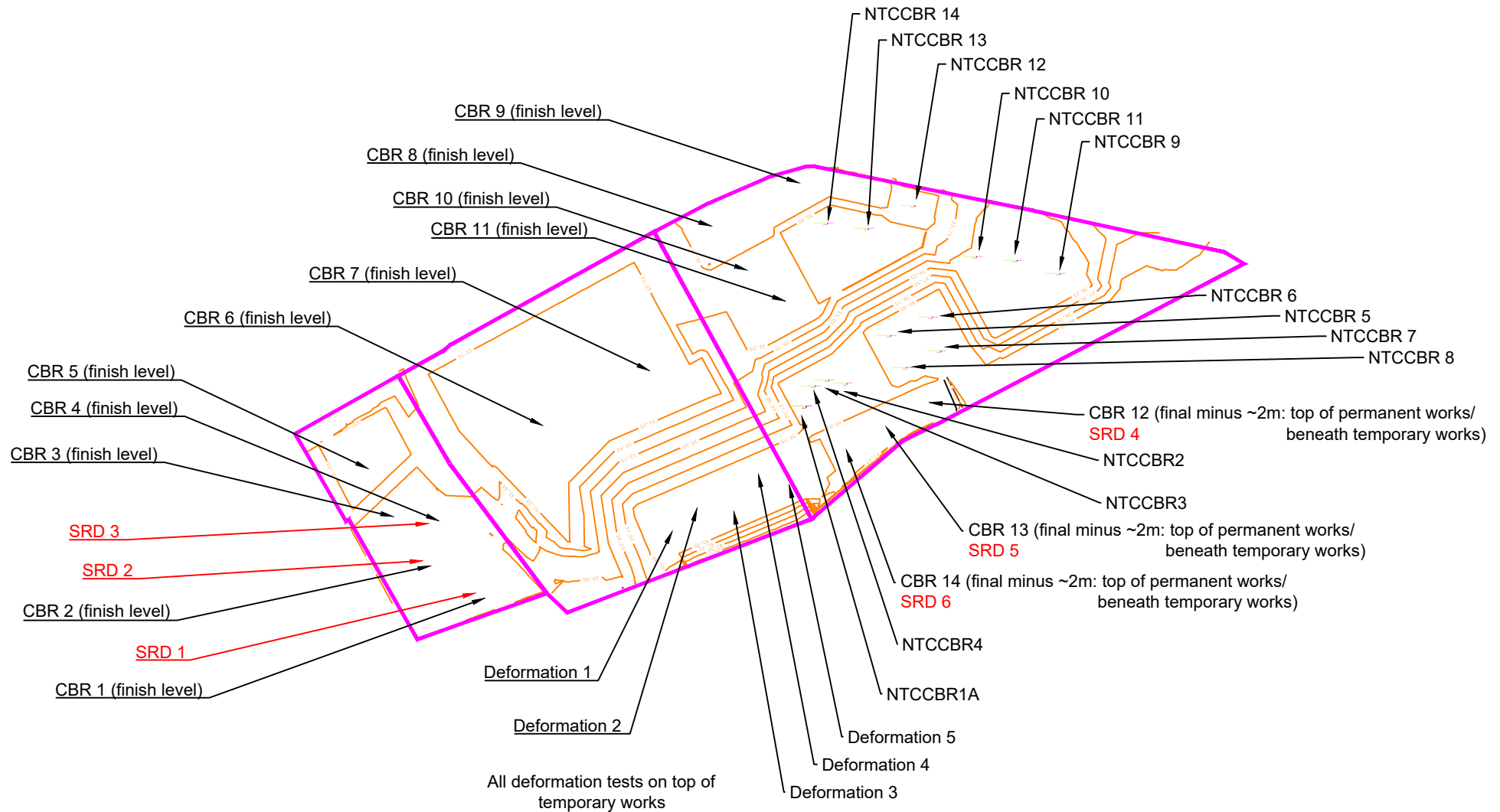


Provectus Remediation

Manchester Victoria NT02 to NT04

Location of CBR plates and SRD test (for permanent works), and deformation plates (for temporary works)

May to November 2024

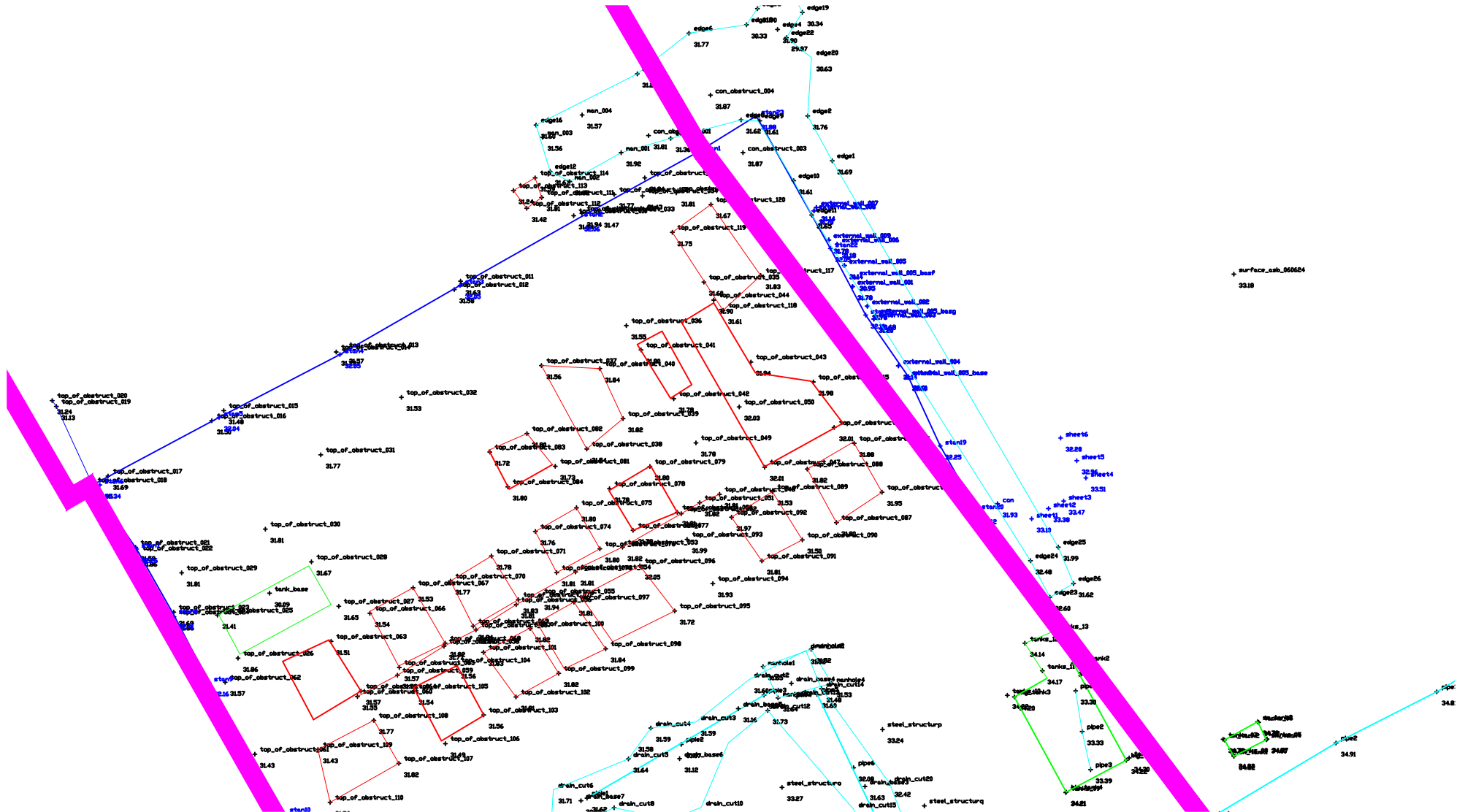


Provectus Remediation

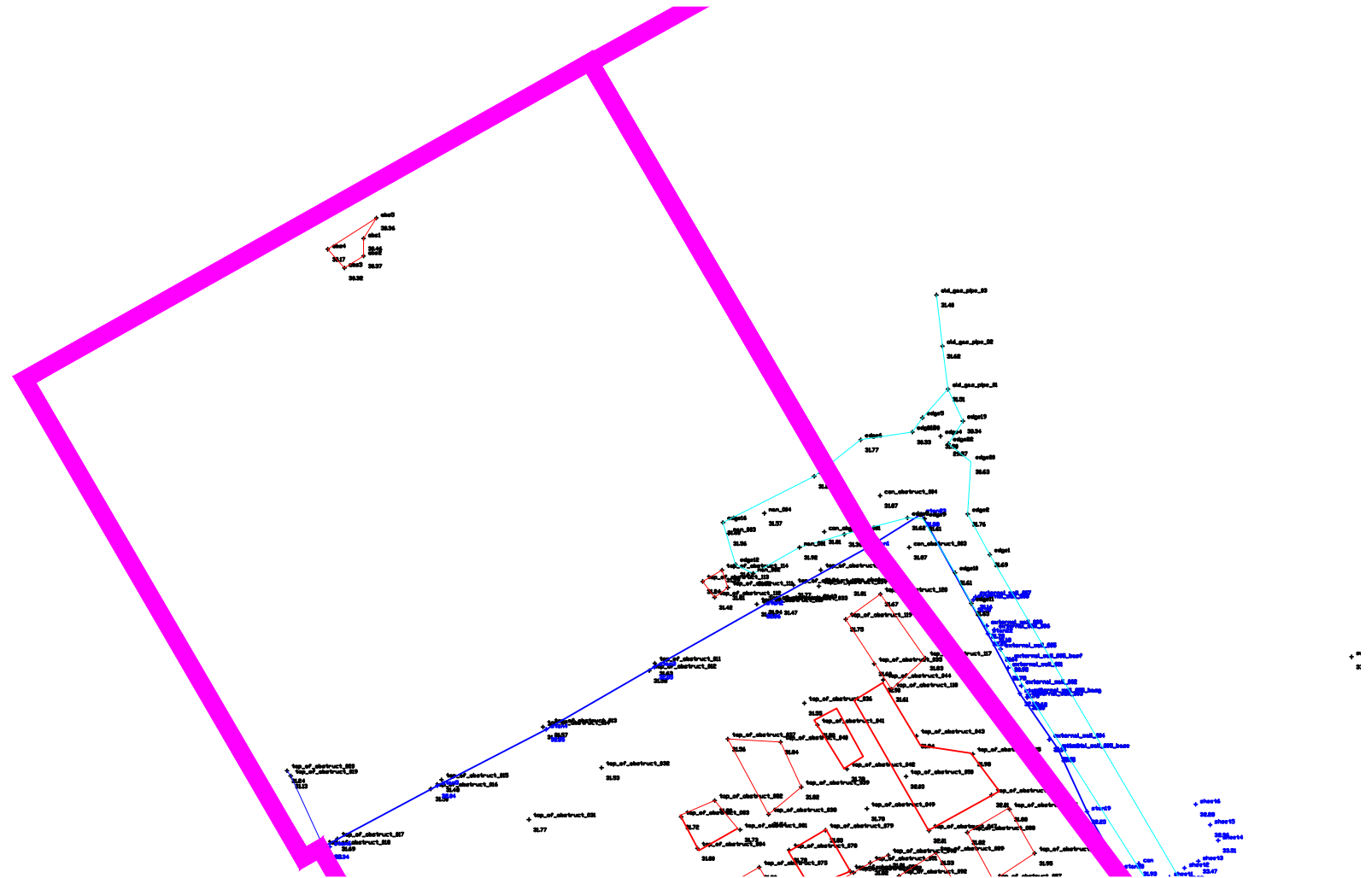
Manchester Victoria NT02 to NT04

Location of encountered obstructions, mid portion of NT02

May to November 2024



Provectus Remediation
Manchester Victoria NT02 to NT04
Location of encountered obstructions, N portion NT02
May to November 2024

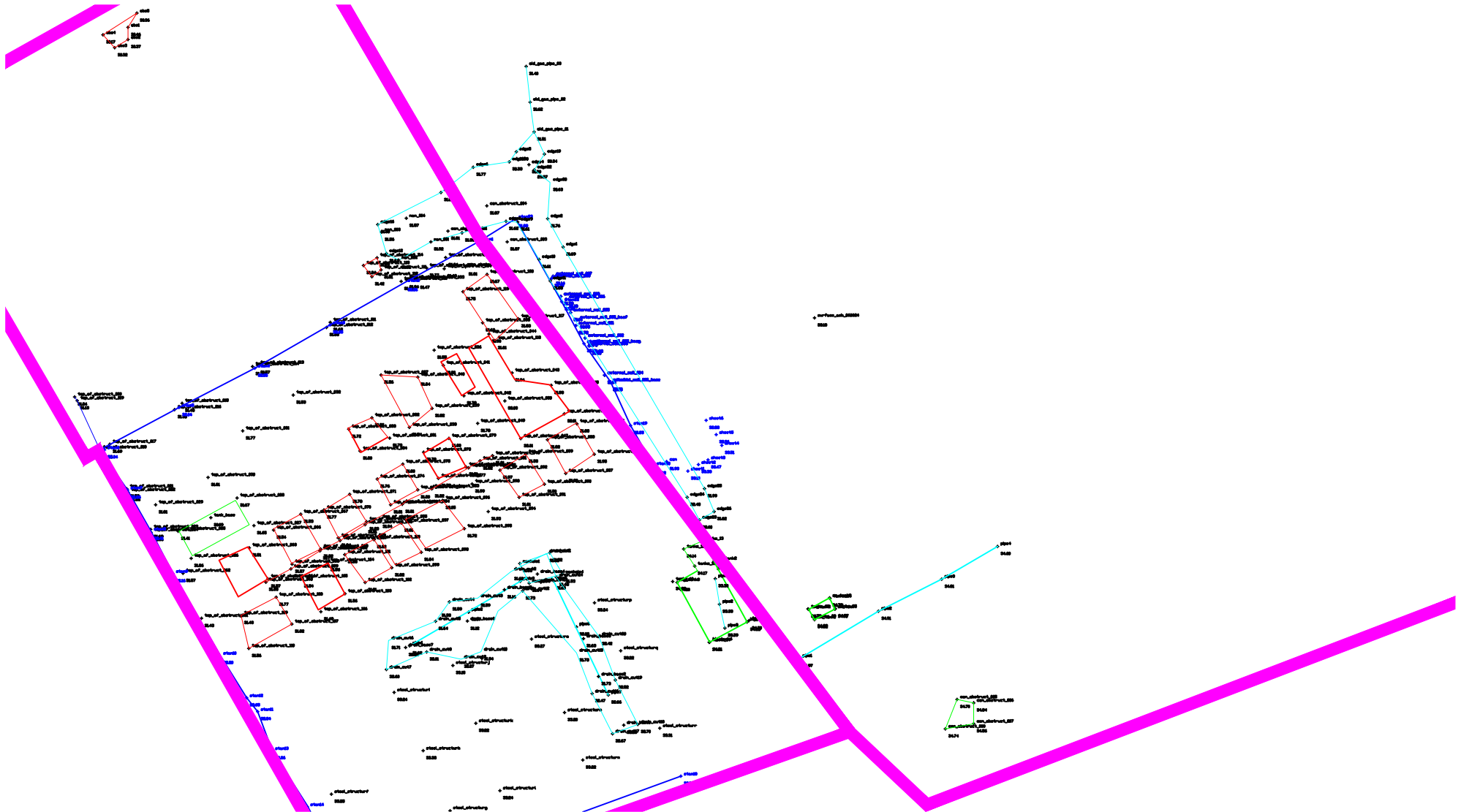


Provectus Remediation

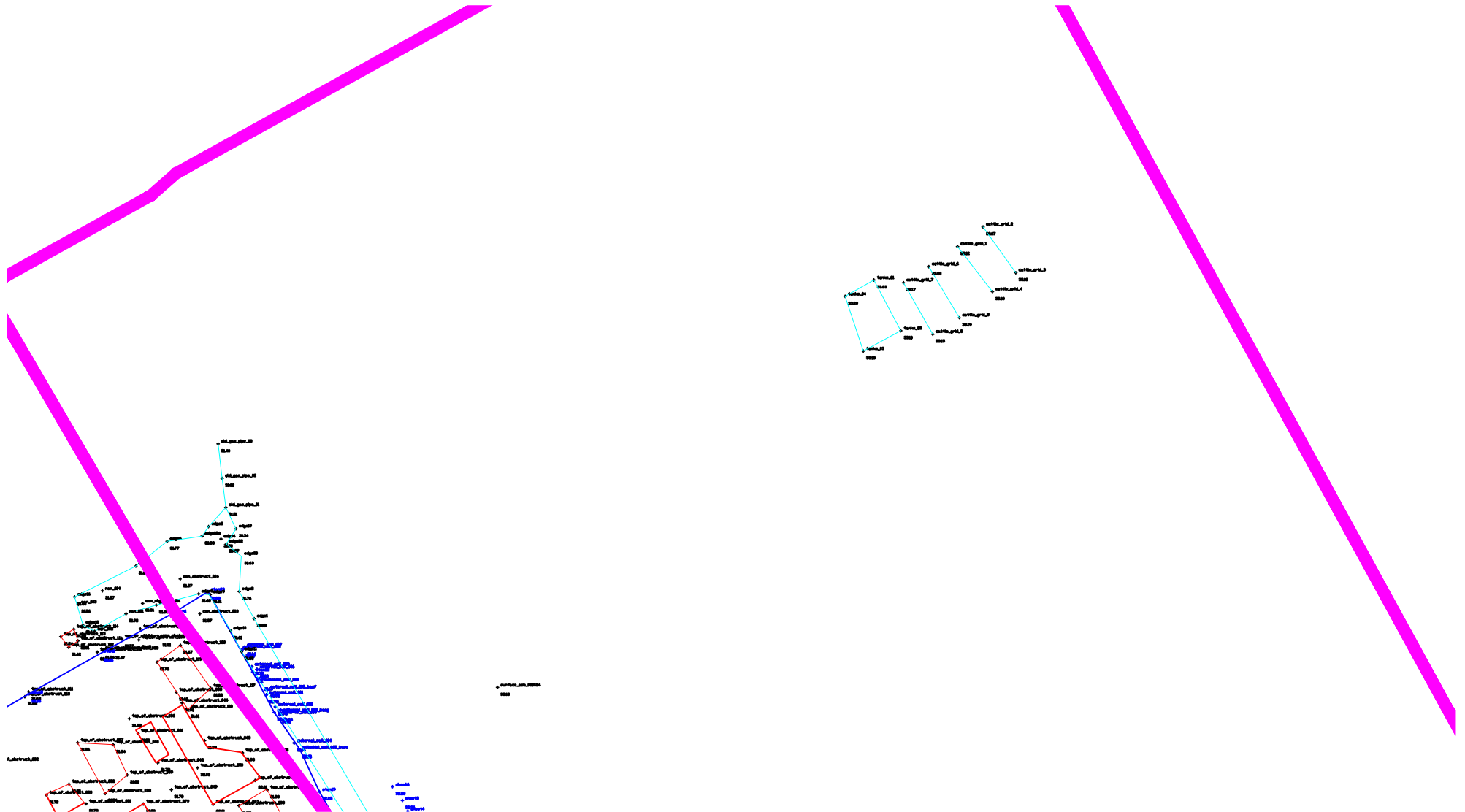
Manchester Victoria NT02 to NT04

Location of encountered obstructions, mid portion of NT02

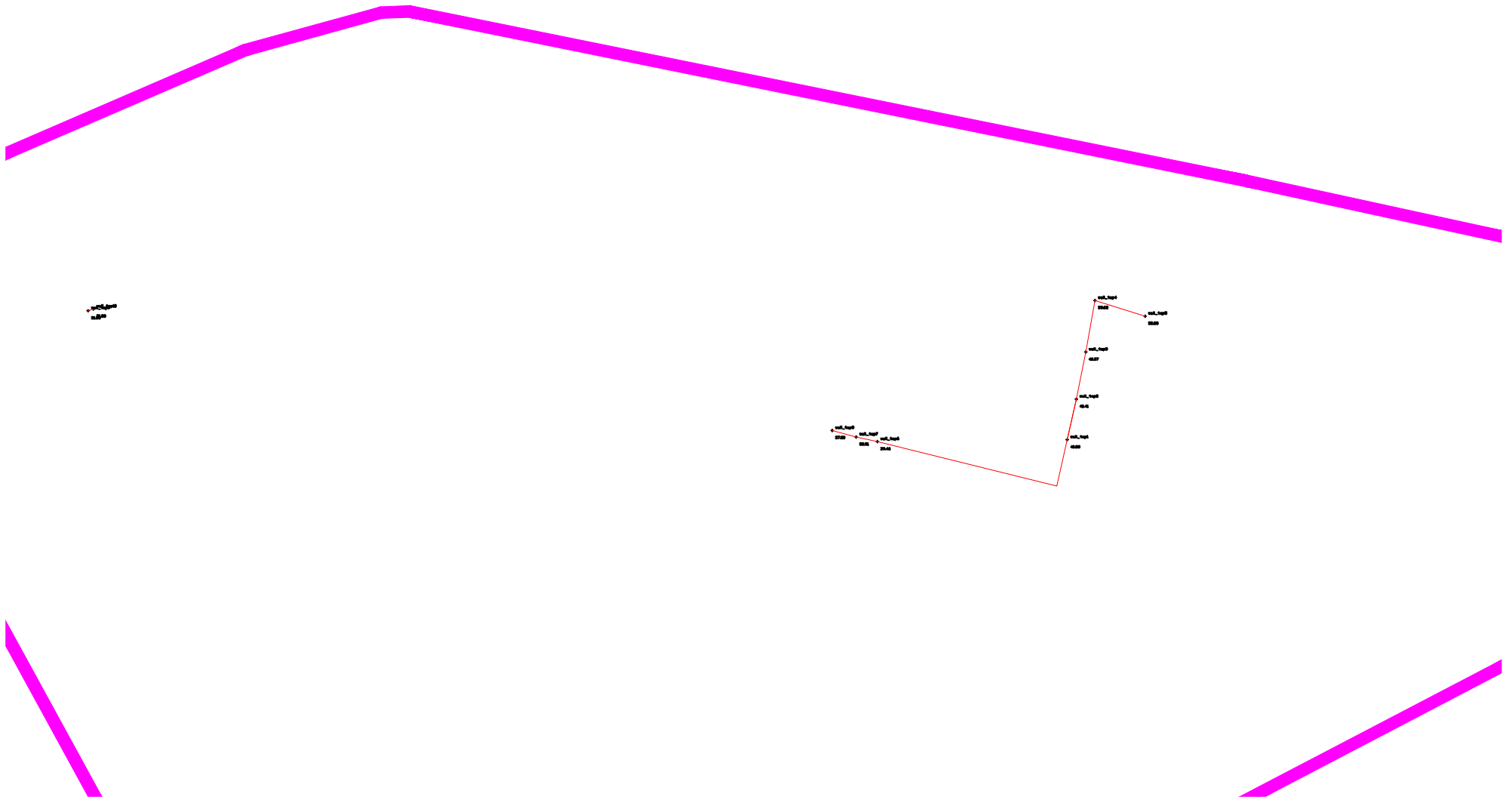
May to November 2024



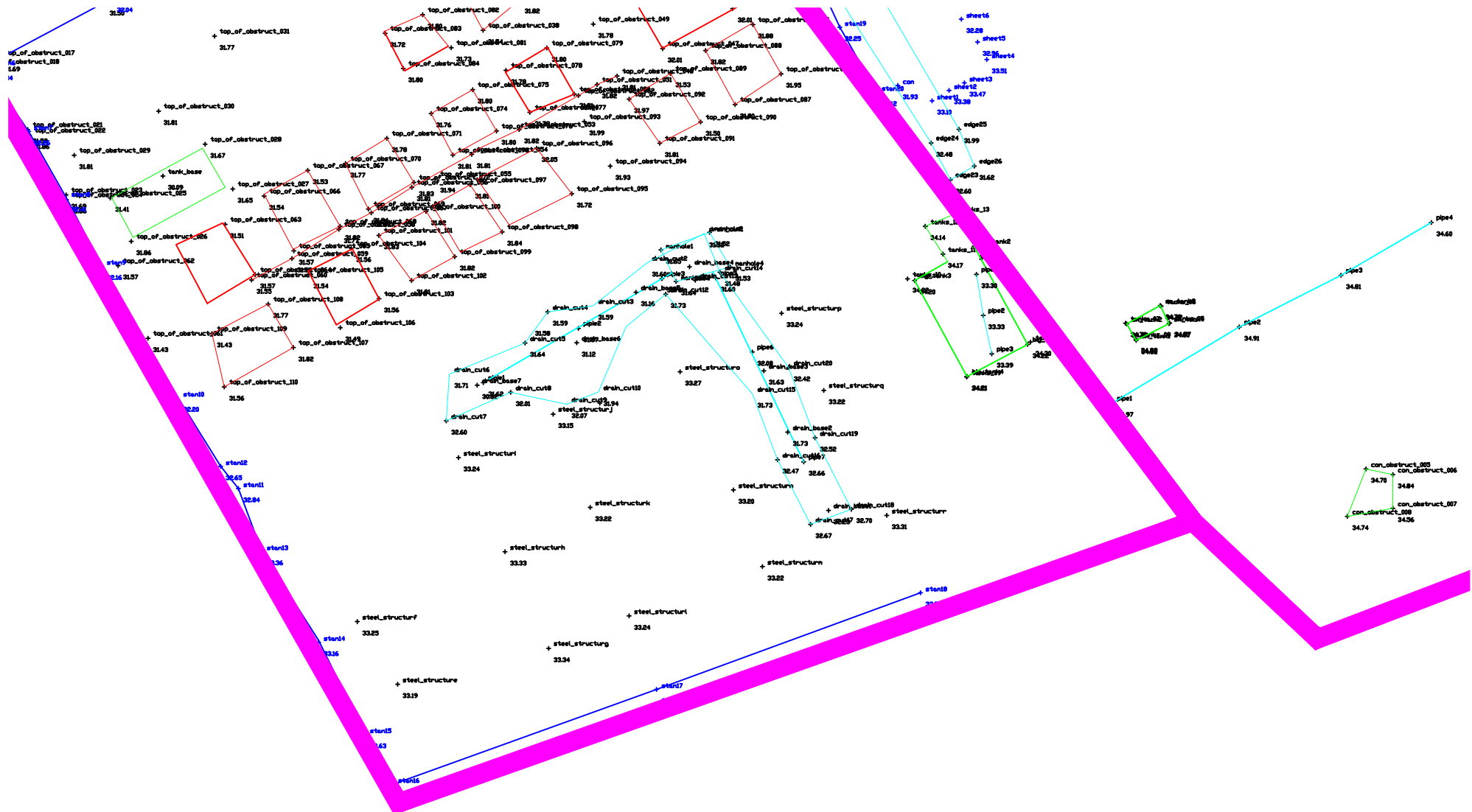
Provectus Remediation Manchester Victoria NT02 to NT04 Location of encountered obstructions, NT03 May to November 2024



Provectus Remediation
Manchester Victoria NT02 to NT04
Location of encountered obstructions, NT04
May to November 2024



May to November 2024

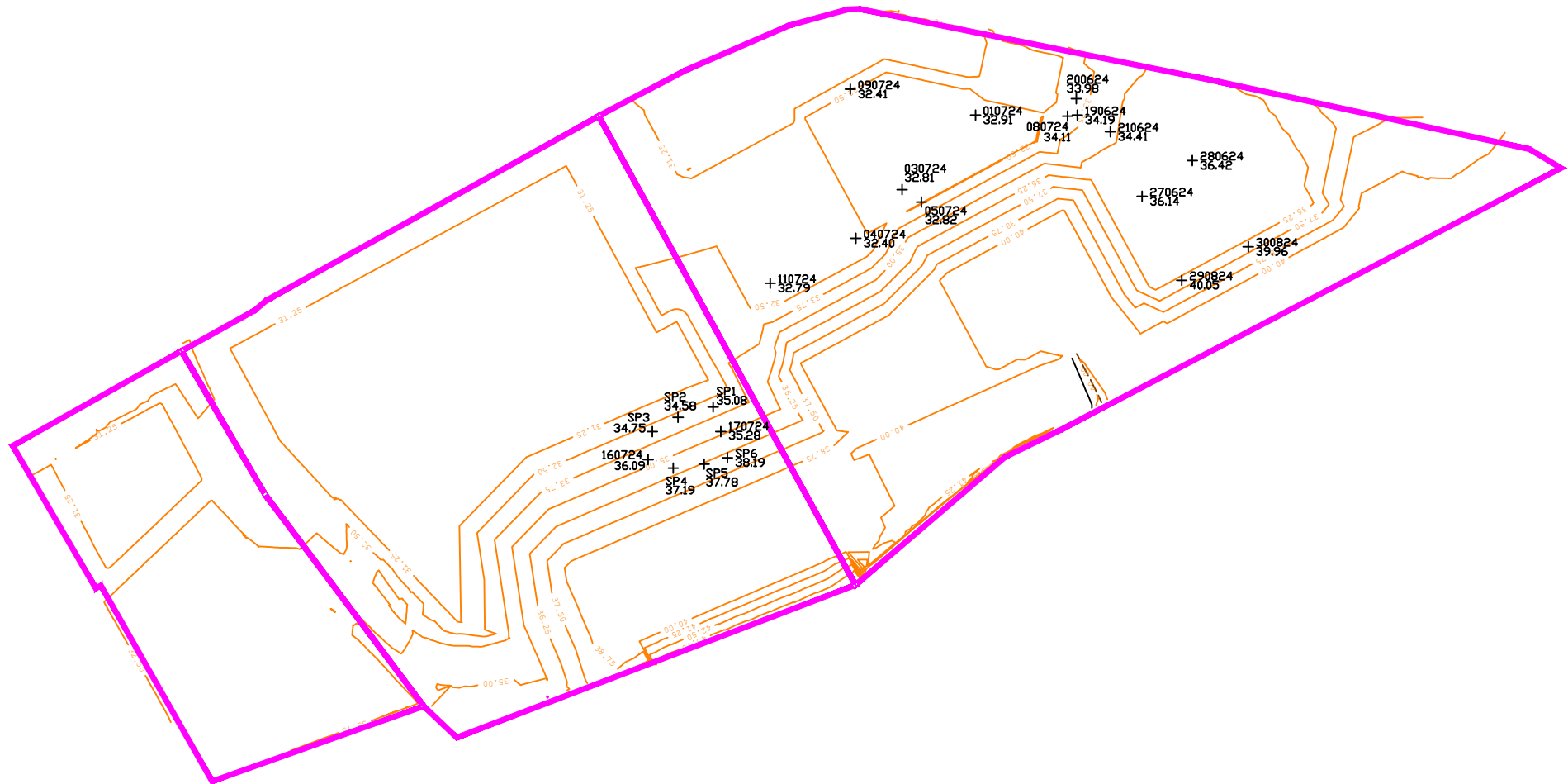


Provectus Remediation

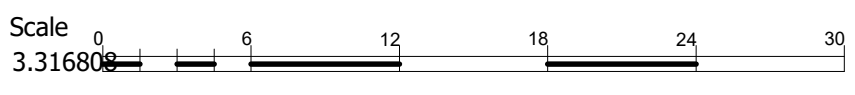
Manchester Victoria NT02 to NT04

Location of export sample locations (*when sampled at point of excavation*)

May to November 2024



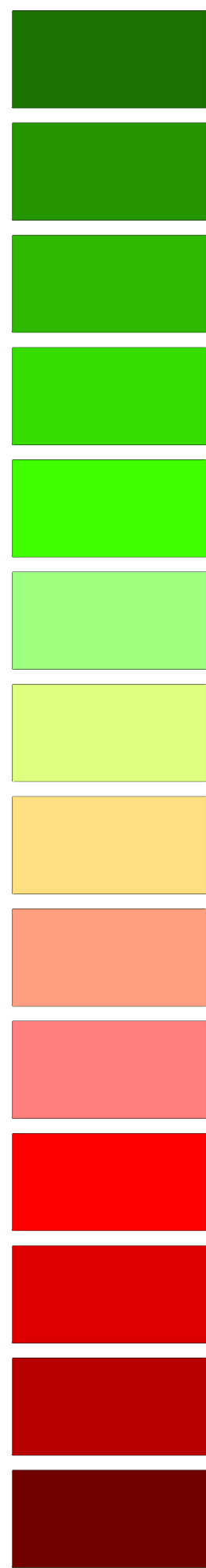
Manchester North



Notes:

Height ranges

0.6
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6



NT 04

NT 03

NT 02

Manchester North
Bulk Earthworks Volumes



ZONES	CUT & FILL - TENDER				
	Cut Area (m²)	Cut Volume (m³)	Fill Area (m²)	Fill Volume (m³)	Net Volume (m³)
NT02	1,853 m2	-1,292 m3	1,318 m2	457 m3	-834 m3
NT03	7,285 m2	-10,169 m3	1,755 m2	1,911 m3	-8,258 m3
NT04	8,139 m2	-20,918 m3	2,360 m2	4,308 m3	-16,610 m3
		-32,379 m3		6,676 m3	-25,703 m3

This includes concrete

PO1	1-Comment
B Opatu	10/12/24

Rev	Comment
Created By	Date

3.316808	WOLVERHAMPTON
----------	---------------

Client Approval
A - Approved

B - Approved With Comments
C - Do Not Use

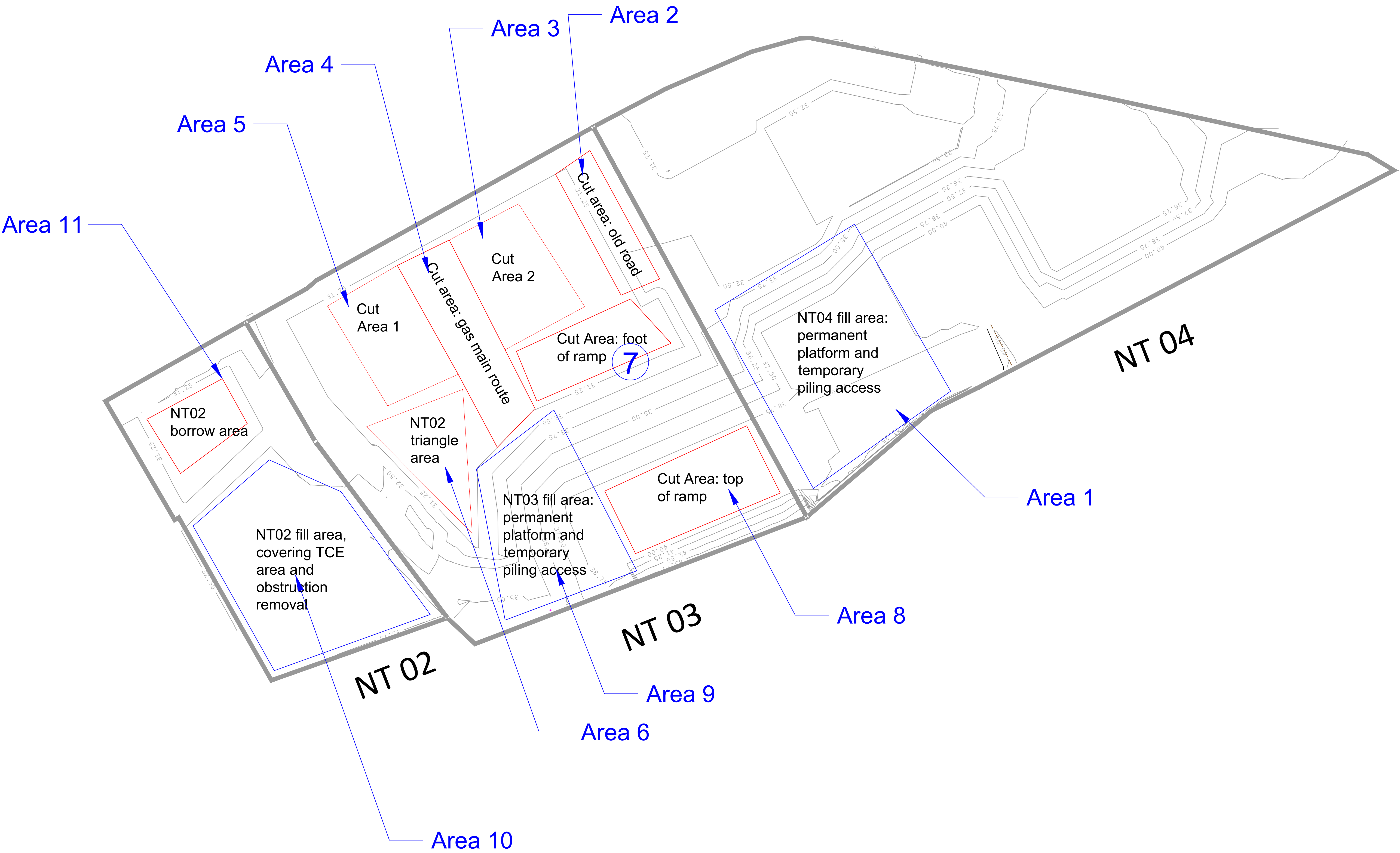
Status	Purpose of Issue
S3	For Internal Review



Project
MAMHCETER NORTH

Title
LEVEL DIFFERENCE

Earthworks - Manchester North



Zone surface	Description	Cut area	Cut volume	Fill area	Fill volume	Total area	Net volume
Area 1	NT04 fill area: permanent platform and temporary piling access	574 m2	-1,573 m3	1,300 m2	3,794 m3	1,874 m2	2,221 m3
Area 2	Cut area: old road	320 m2	-130 m3	17 m2	0 m3	337 m2	-130 m3
Area 3	Cut Area 2	590 m2	-689 m3	0 m2	0 m3	590 m2	-689 m3
Area 4	Cut area: gas main route	613 m2	-851 m3	0 m2	0 m3	613 m2	-851 m3
Area 5	Cut Area 1	543 m2	-541 m3	0 m2	0 m3	543 m2	-541 m3
Area 6	NT02 triangle area	405 m2	-740 m3	0 m2	0 m3	405 m2	-740 m3
Area 7	Cut Area: foot of ramp	430 m2	-906 m3	0 m2	0 m3	430 m2	-906 m3
Area 8	Cut Area: top of ramp	611 m2	-1,799 m3	36 m2	21 m3	647 m2	-1,778 m3
Area 9	NT03 fill area: permanent platform and temporary piling access	434 m2	-488 m3	669 m2	1,379 m3	1,103 m2	891 m3
Area 10	NT02 fill area, covering TCE area and obstruction removal	937 m2	-925 m3	647 m2	340 m3	1,584 m2	-585 m3
Area 11	NT02 borrow area	277 m2	-117 m3	0 m2	0 m3	277 m2	-117 m3
		5,735 m2	-8,759 m3	2,668 m2	5,534 m3	8,403 m2	-3,226 m3

Scale
2,073786

010203040

Notes:

1-Comment

Rev
2,073786

Comment
WOLVERHAMPTON

Client Approval

A - Approved

B - Approved With Comments

C - Do Not Use

Status
S3

Purpose of Issue
For Internal Review

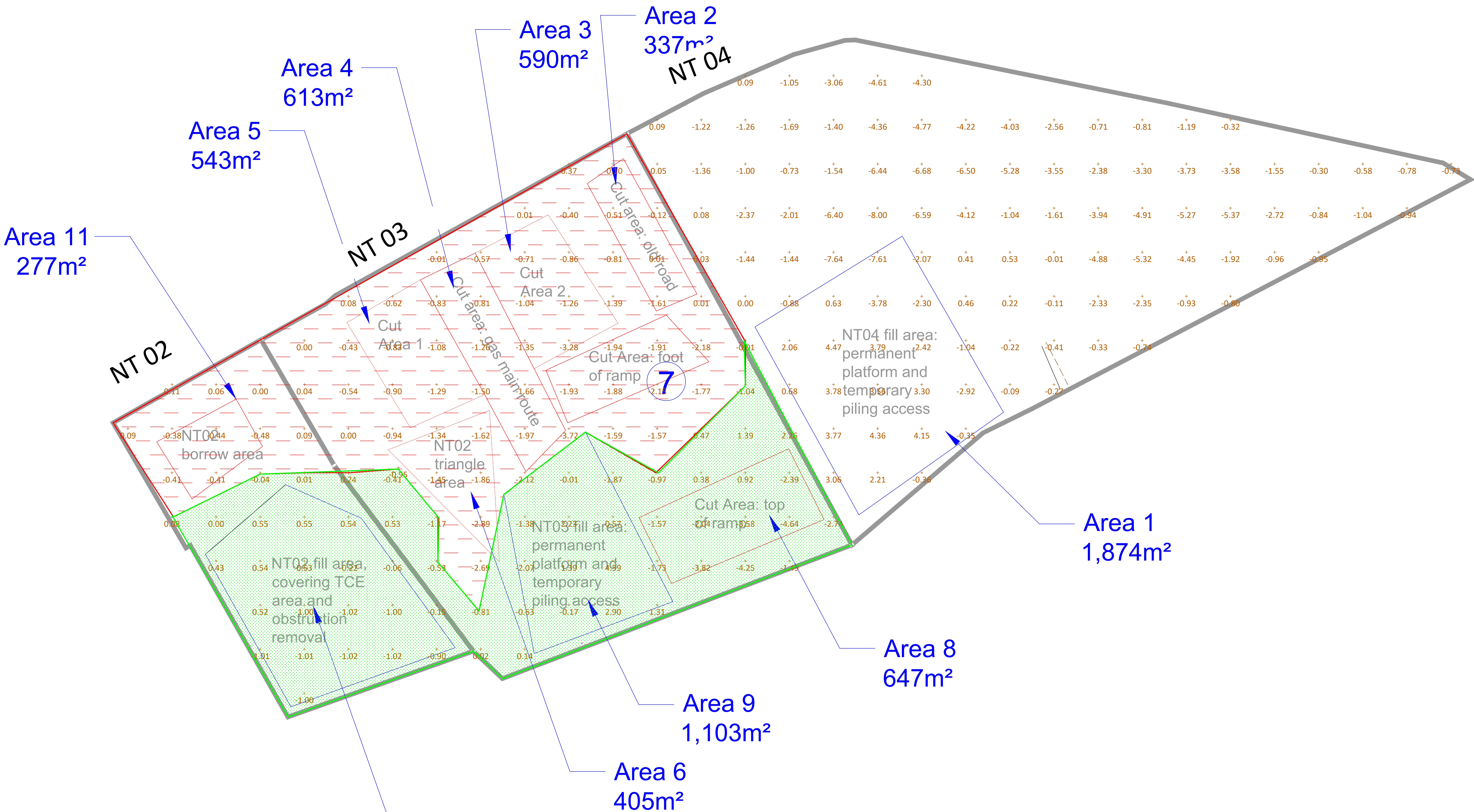
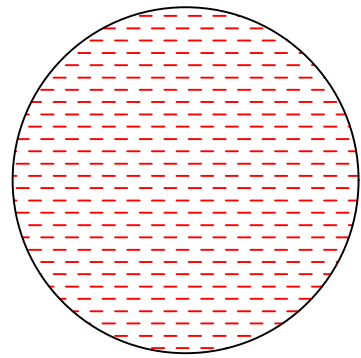
PROVECTUS

Project
MAMHCETER NORTH

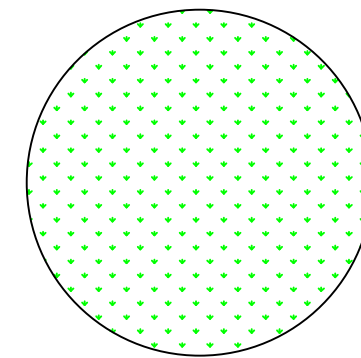
Title
EARTHWORKS

Sheet Size A0 1189 x 841

Earthworks - Manchester North



Cut Vol : 6,743m³



Cut Vol : 5,005m³ | Fill Vol : 2,291m³



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix E

Site photographs in chronological order



NT04: excavation of stockpiled knotweed material

16th April 2024



NT03 facing NW, prior to start of excavation works. Note “ramp” up to railway viaduct on site’s S boundary (yellow arrow) and “small piles” (red arrow)

16th April 2024



NT04: post-removal of majority of knotweed impacted material from E end towards Dalton St

16th April 2024



NT04: knotweed removal cont'

24th April 2024



NT04, facing N towards Dalton St/Dantzic St junction

24th April 2024



NT03 facing S: clearance works for site compound. Note small quantity of asbestos cement encountered within fill materials in this location: removed to quarantine area (see page 6)

8th May 2024



NT02 facing east...TCE area to right, 6F2 originating from original buildings' demolition stockpiled to left

8th May 2024



Western boundary of NT02, facing N. Boundary trench backfilled as part of works
8th May 2024



NT03 Northern area...asbestos cement materials encountered during excavations for site cabins
(see Section 4.2).
14th May 2024



NT03: single chamber interceptor, close to bend in MP gas main (see Section 4). Liquid contents clean, small 'tide' mark of slightly impacted material (yellow arrow)

15th May 2024



Facing E, demolition of redundant structure in NT04

22nd May 2024



NT03 facing S towards railway viaduct. Note “ramp” (yellow arrow) and stockpiled oversize (red arrow)

22nd May 2024



NT03 facing W towards NT02 and oversized storage area

22nd May 2024



NT04 facing S: excavation works

28th May 2024



NT04 excavation and export works, as above

28th May 2024



NT03 facing S towards viaduct: placement of materials for permanent upfill.

30th May 2024

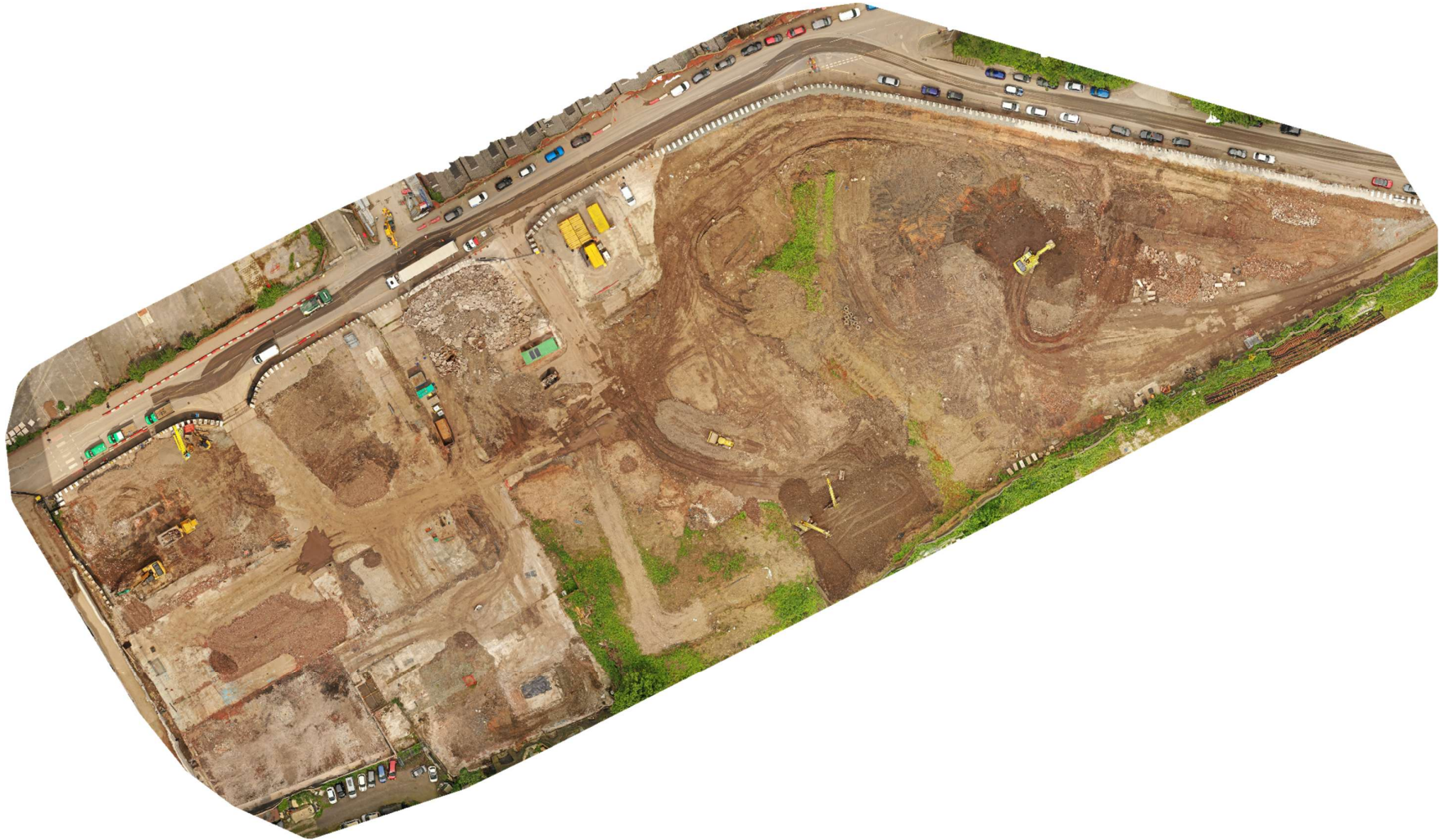


NT03 facing S: permanent upfill works

31st May 2024



NT02 facing E: pre-excavation of TCE impacted materials. Note garage retaining wall to right
31st May 2024



Site-wide drone shot: 31st May 2024



NT04 facing E. excavation & export cont'

4th June 2024



NT02/NT03: excavation of contents of five chambered tank (see Section 4.1)

18th June 2024



NT02/NT03: demolition of five chambered tank
18th June 2024



Contents of five chambered tank in sealed quarantine area
18th June 2024



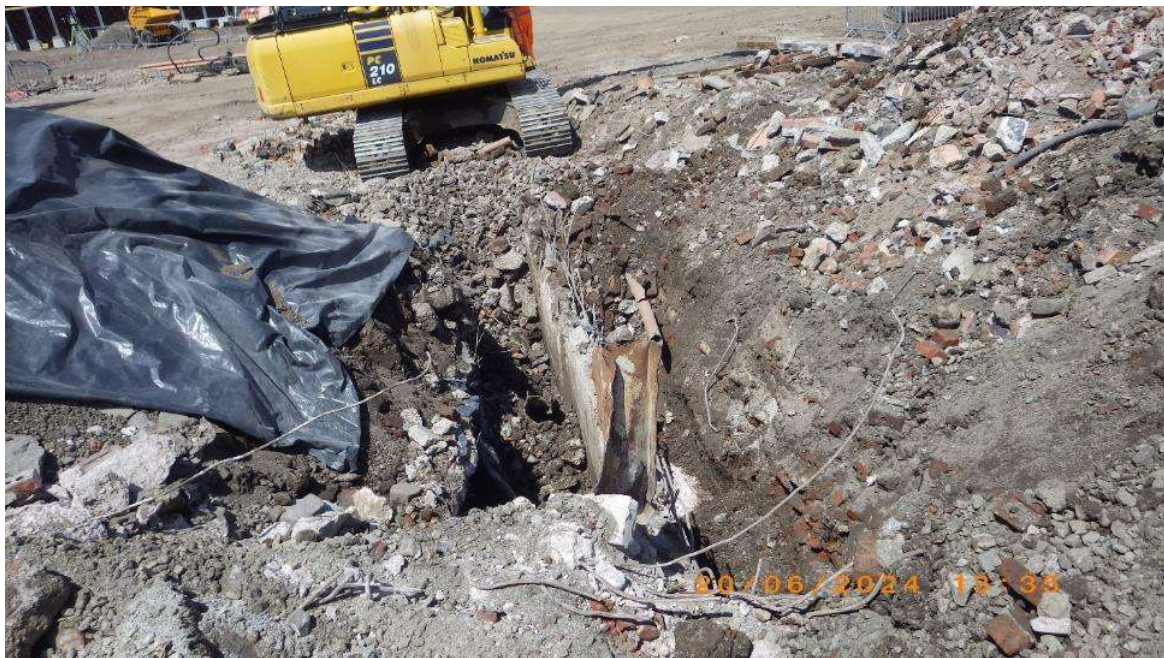
NT02 western boundary: "NT02 tank" encountered during demolition of floor slab (see Section 4.2)

20th June 2024



NT02 western boundary: "NT02 tank" encountered during demolition of floor slab

20th June 2024



NT02: demolition and chasing of buried obstructions

20th June 2024



NT03/NT04: dampening down of haul roads

24th June 2024



“NT02 tank” post-removal of water and solid contents

21st June 2024



NT02: uncovering of obstructions (see Section 5)

25th June 2024



NT04: excavations cont'

25th June 2024



NT04 facing N towards Dantzic St/Dalton St junction

26th June 2024



NT03 permanent uphill works, facing W (railway viaduct to left)

26th June 2024



NT02, facing S. chasing of drainage runs

28th June 2024



NT02: chasing and removal of drainage runs

28th June 2024



Site-wide drone photograph: 27th June 2024



NT02 facing S. Removal of deeper drain runs

1st July 2024



NT03: removal of the floor slab around the “small tank” and MP gas main (note vibration meter, red arrow on top of pipe)

1st July 2024



NT02: backfilling post drainage run chasing

1st July 2024



NT02: exposure of MP gas main by Cadent

4th July 2024



NT03 "small tank" demolition

4th July 2024



NT03 "small tank" demolition

4th July 2024



NT02 facing N from now-remediated TCE area. Note buried obstructions uncovered and about to be demolished

5th July 2024



NT03 crushing area: segregation of tarmac to avoid contamination of 6F2.

5th July 2024



Further uncovering of buried obstructions, NT02 facing NW

9th July 2024



NT02: buried obstructions

9th July 2024



NT02: loading of TCE material (see Appendix J for further details)

9th July 2024



NT03: oversize stockpile awaiting arrival of crusher

11th July 2024



NT03: backfill and compaction following obstruction removal

12th July 2024



NT02: demolition of "NT02 tank"

12th July 2024



NT02: preparation for installation of MP gas diversion by Cadent

17th July 2024



NT04, facing W with viaduct wall to left: archaeological excavations of Dalton Works printers (see Section 6). Note stockpile of excavation material to rear of excavator.

17th July 2024



NT04, facing N: cutting of surface

17th July



NT03: excavation and demolition of the wheelwash (see Section 4.1)

24th July 2024



NT04/NT03: permanent upfill

29th July 2024



NT03: placement of material in permanent upfill area

30th July 2024



NT03: cutting of ash fill material. Material transferred to NT03 upfill area

1st August 2024



Placement and levelling of material between NT04 and NT03 to allow access to piling platform
22nd August 2024



Placement and levelling of material between NT04 and NT03 to allow access to piling platform
22nd August 2024



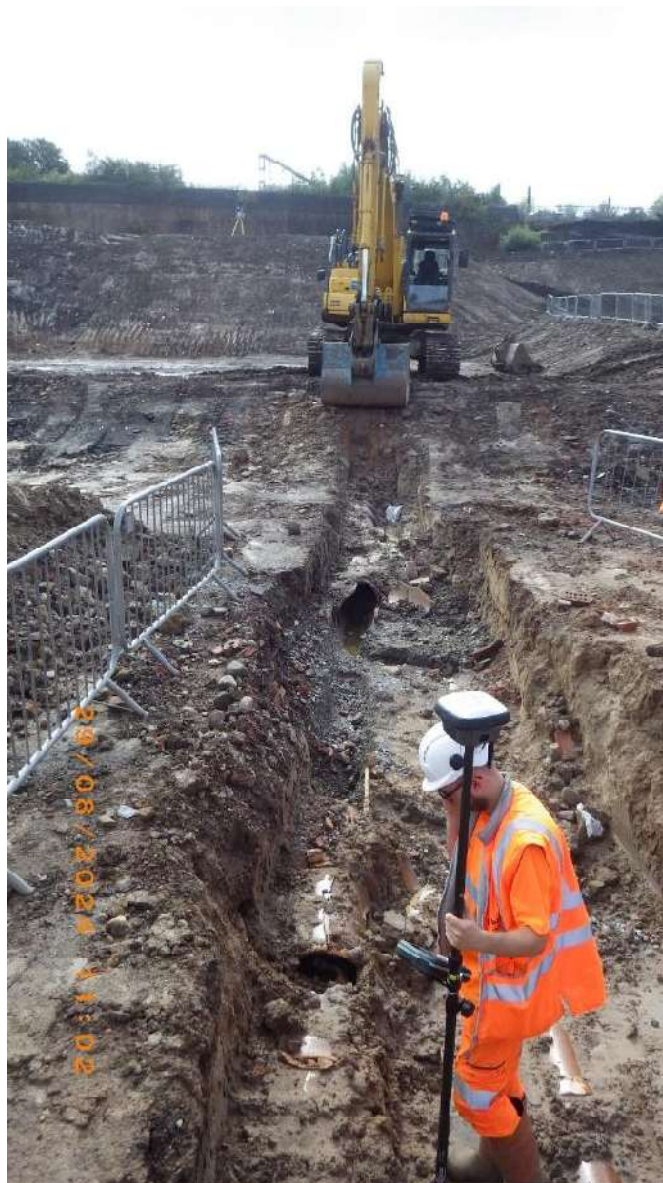
NT03, top of “ramp” on S border

28th August 2024



NT03, top of “ramp” on S boundary. Final cut.

28th August 2024



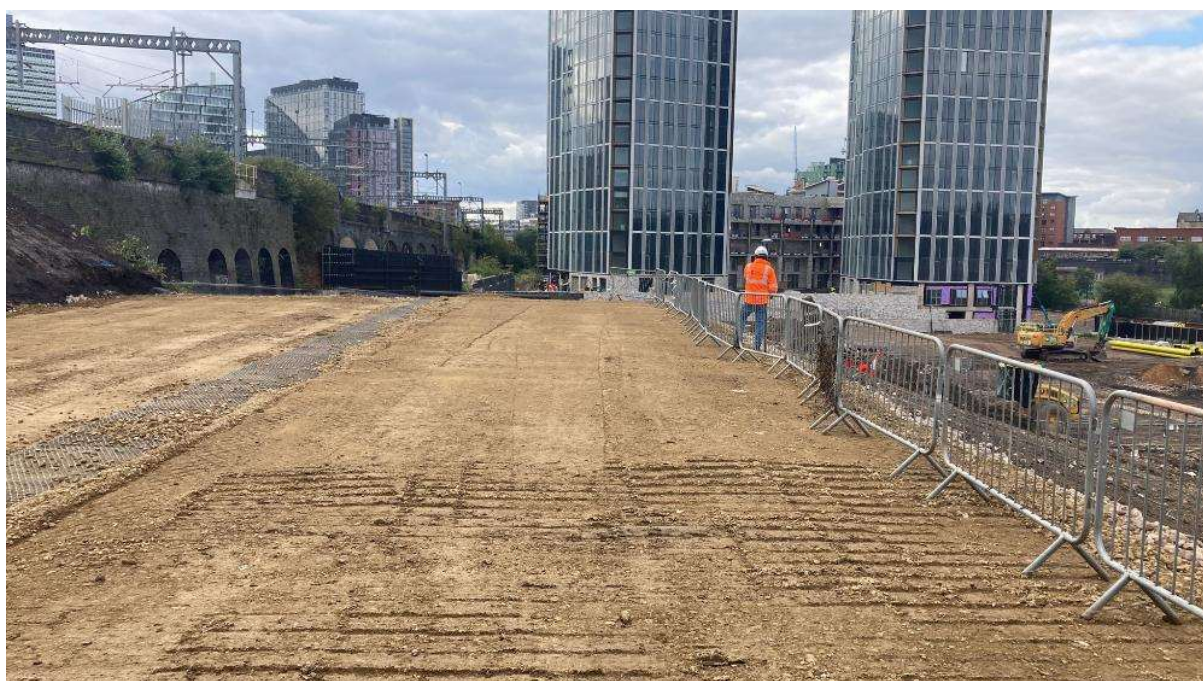
NT04/NT03, facing S: chasing and excavation of redundant drainage

29th August 2024



NT04/NT03, facing S: backfilling following chasing and excavation of redundant drainage

30th August 2024



NT03 on S boundary adjacent to railway viaduct. Installation of pile mat

13th September 2024

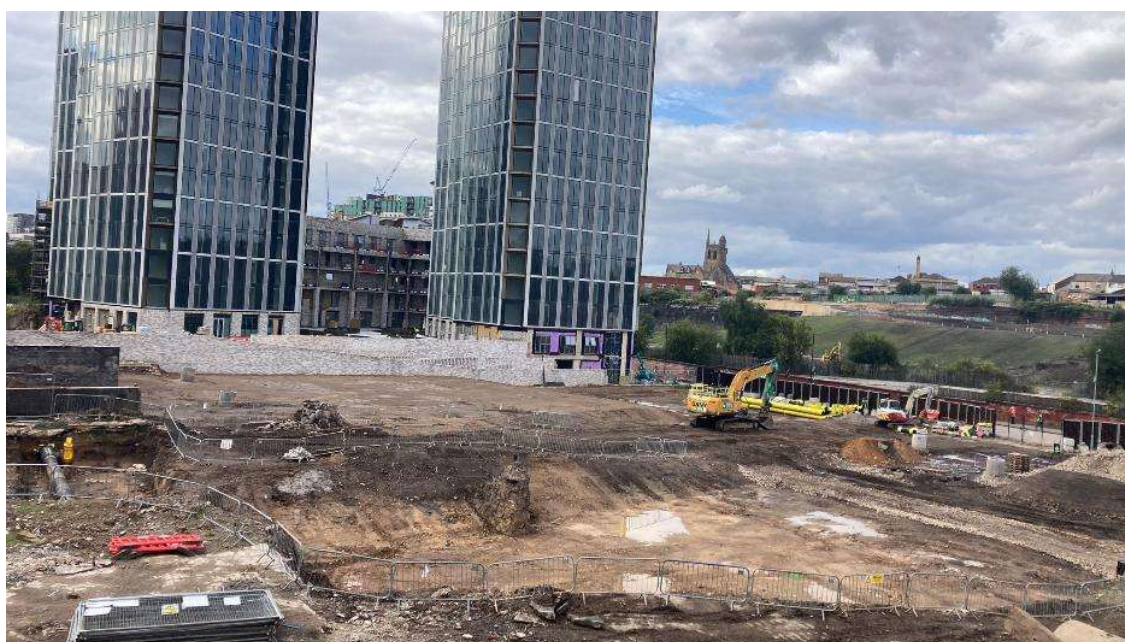


NT03 on S boundary adjacent to railway viaduct. Installation of pile mat, including geotextile

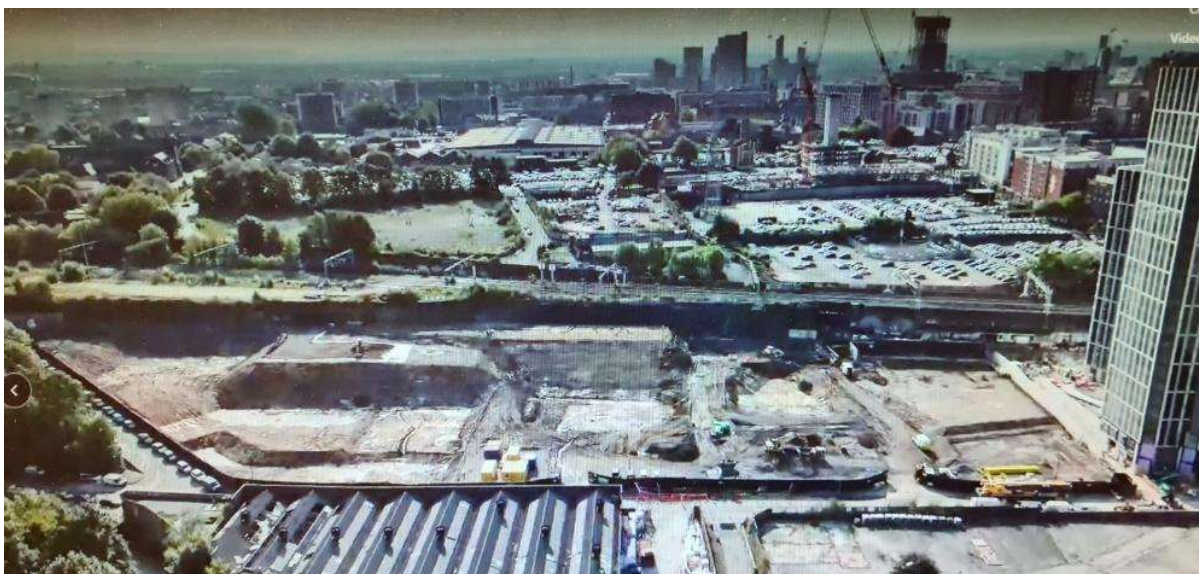
13th September 2024



NT04 facing E
13th September 2024



NT02 facing W: cutting of redundant gas main route
13th September 2024



Drone photo facing S

23rd September 2024



NT03 S boundary: extension of pile mat across area formerly occupied by MP gas main

25th October 2024



NT03 S boundary: extension of pile mat across area formerly occupied by MP gas main

25th October 2024



NT03 S boundary: extension of pile mat across area formerly occupied by MP gas main

25th October 2024



NT03 S boundary: extension of pile mat across area formerly occupied by MP gas main

25th October 2024



NT03 S boundary: shaping of batter on extension of pile mat across area formerly occupied by MP gas main

25th October 2024



NT03 S boundary: extension of pile mat across area formerly occupied by MP gas main. Roller is compacting access road

25th October 2024



NT03: pile mat continues

29th October 2024



NT03 pile mat: final deformation plate tests

4th November 2024



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix F

Environmental permits and waste carriers licenses for receiving facilities



Environment
Agency

Permit

The Environmental Permitting (England & Wales) Regulations 2010

Churchill Enviro Ltd

Fletcher Bank
Fletcher Bank Quarry
Ramsbottom
Bury
BL0 0HD

Permit number

EPR/RP3098VD

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit

Permit number
EPR/RP3098VD

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

Churchill Enviro Ltd ("the operator")

whose registered office is
1 Consort Place
Off Green Walk
Bowdon
Altrincham
Cheshire
WA14 2SH

company registration number 05393456

to operate *waste operations* described in standard rules SR2010No8_100kte at
Fletcher Bank
Fletcher Bank Quarry
Ramsbottom
Bury
BL0 0HD

to the extent authorised by and subject to the conditions of this permit.

Under regulation 27(2) of the Regulations, standard rules SR2010No8_100kte are conditions of this permit.

Name	Date
Helen Smith	2 nd February 2011

Authorised on behalf of the Environment Agency

THE PERMIT NUMBER FOR FLETCHER BANK IS NOW:

EPR/GP3733FE



IRELAND | UK | UAE | BAHRAIN | KSA

Fletcher Bank Quarry Landfill Site

Hydrogeological Risk Assessment Review

Churchill Enviro Limited

Report No. K0047-ST-R003

14 April 2022

Revision 01

Document Control

Document: Hydrogeological Risk Assessment Review

Project: Fletcher Bank Quarry Landfill Site

Client: Churchill Enviro Limited

Report Number: K0047-ST-R003

Document Checking:

Revision	Revision/ Review Date	Details of Issue	Authorised		
			Prepared By	Checked By	Approved By
00	31 March 2022	Issued to Client	D King	P Roberts	P Scotney
01	14 April 2022	Issued to EA	D King	P Roberts	P Scotney
Disclaimer: Please note that this report is based on specific information, instructions, and information from our Client and should not be relied upon by third parties.					

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1 Introduction

1.1 Background

This document prepared by ByrneLooby Partners (UK) Ltd (BLP) provides a Hydrogeological Risk Assessment Review (HRAR) for Fletcher Bank Landfill ('the Site'). The permit holder is Churchill Enviro Limited. As part of the document preparation, the following reports and data sources have been consulted:

- TerraConsult 2011¹, Fletcher Bank East Landfill: Environmental Permit Application. FBP1-4 Environmental Setting and Installation Design (ESID). Ref. FBP1-4.
- TerraConsult 2011², Fletcher Bank East Landfill: Environmental Permit Application. FBP2-1 Hydrogeological Risk Assessment. Ref. FBP2-1.
- TerraConsult 2014³, Hydrogeological Risk Assessment Review: Fletcher Bank Landfill Site. Ref. 1772/R/003/1.
- TerraConsult 2020⁴, Phase 1 – Cell 1 Non-hazardous Construction Works. Validation Report. Fletcher Bank Landfill Site. Ref. 3125/R/006/2.
- Churchill Enviro Ltd Monitoring data & drawings.

1.2 Risk Assessment Objectives

This report has been prepared in response to the requirement of Environmental Permit (EPR/GP3733FE) condition 3.1.3(b) to undertake a Hydrogeological Risk Assessment Review (HRAR).

The reviews were originally required on a 4-yearly cycle through the life of the Permit; however, this frequency has subsequently been reduced to a 6-year cycle (EPR 2010)⁵.

HRAR's are required to validate the assumptions used within the original risk assessment or previous reviews. HRAR's assess whether the waste disposal activities authorised by the permit continue to meet the requirements of The Environmental Permitting (England and Wales) Regulations 2016 (EPR), particularly compliance with Schedule 22 (Groundwater Activities). These Regulations require that Hazardous Substances are not discharged to groundwater, and that the discharge of Non-Hazardous Pollutants is limited *"so as to prevent pollution"*.

¹ TerraConsult 2011, Fletcher Bank East Landfill: Environmental Permit Application. FBP1-4 Environmental Setting and Installation Design (ESID). Ref. FBP1-4.

² TerraConsult 2011, Fletcher Bank East Landfill: Environmental Permit Application. FBP2-1 Hydrogeological Risk Assessment. Ref. FBP2-1.

³ TerraConsult 2014, Hydrogeological Risk Assessment Review: Fletcher Bank Landfill Site. Ref. 1772/R/003/1.

⁴ TerraConsult 2020, Phase 1 – Cell 1 Non-hazardous Construction Works. Validation Report. Fletcher Bank Landfill Site. Ref. 3125/R/006/2.

⁵ Revised conditions to reflect the terminology used by the Groundwater Directive and to require hydrogeological risk assessment reviews every 6 years rather than every 4 years <https://www.gov.uk/guidance/landfill-developments-groundwater-risk-assessment-for-leachate>

Where discrepancies or changes are observed (which may have an impact on pollution potential) then numerical re-modelling should be considered, following relevant guidance and appropriate modelling tools.

The Site is operated on the principle of “*Engineered Containment*”.

2 Site Location, History & Key Design Summary

2.1 Location

The Site is located within the wider Fletcher Bank Quarry complex (Figure 2.1), near Ramsbottom in the northwest of England. The Site occupies an area of approximately 15.5 ha at an elevation of between 180mOD to 230mOD. The complex is located approximately 8 km to the north of Bury and 13 km to the northwest of Rochdale. Outside the quarry area are agricultural fields, isolated farmhouses and interspersed dwellings that lie to the north, east and south of the site. Moorland dominates land to the east and pockets of woodland can be found to the south of the site. To the west of the quarry is the town of Ramsbottom and to the north is the village of Shuttleworth.

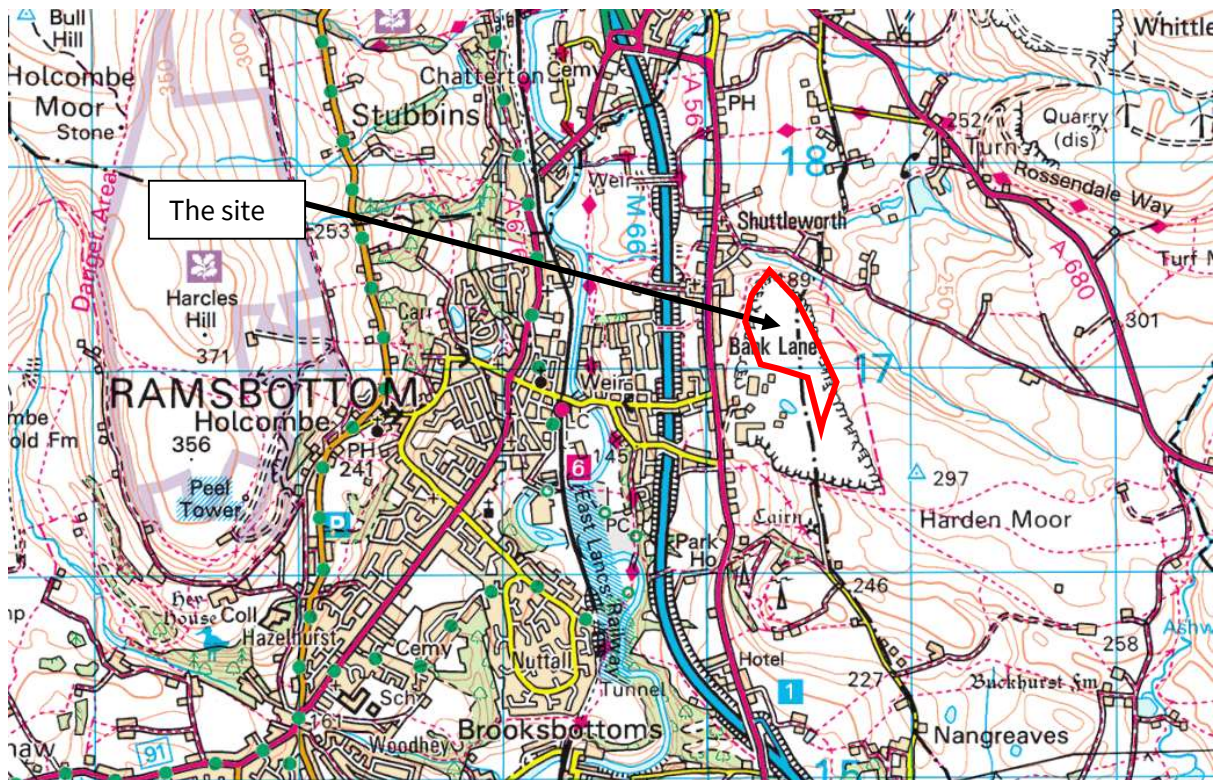


Figure 2.1 – Site Location

2.2 Site History

The Site was founded in the 1880's and has been subject to sandstone and gritstone quarrying. The site was acquired by Marshalls Mono Ltd in 1969 when they purchased Richard Wild and

Company. The quarry also accommodates a substantial concrete products manufacturing plant operated by Marshalls. These works are located in the southwest of the site.

The Site is a substantial minerals extraction operation which is being progressively restored with a combination of minerals wastes and imported wastes under a separate restoration scheme. The Site is located in existing quarry void and is indicated by the green boundary on Drawing No. 1772/3/013 Rev D. The landfill forms a constituent part of the larger restoration scheme for the quarry.

A Pollution Prevention Control (PPC) Permit (DP3638ST) was issued to Marshalls in 2007 prior the transfer to Churchill Enviro Ltd in 2011. It is understood from correspondence from the Operator that waste deposit activities commenced at Fletcher Bank in December 2016 under Environmental Permit EPR/GP3733FE.

Churchill Enviro Limited operate Fletcher Bank Quarry Landfill Site (the Site) under Environmental Permit reference EPR/GP3733FE/V002. The Environmental Permit was varied and a consolidated permit issued in modern condition format in August 2020 by the Environment Agency.

Although the Site is classified as non-hazardous, the waste types listed effectively exclude the readily biodegradable wastes normally associated with non-hazardous landfill sites. The bulk of the materials to be deposited will be excavated soils which typically having been in the ground for many years and would not contain any significant residual quantities of readily biodegradable materials. The waste types accepted are predominantly inert in composition with a very low proportion of biodegradable material. The permitted waste types are listed in Table S2.1 of the Environmental Permit and includes concrete, bricks, tiles and ceramics, and soil and stones. The variation issued in 2020 now limits waste inputs at the site to inert waste only.

2.3 Site Engineering

The base of the landfill sits on historic quarry backfill and restoration material, deposited prior to the issue of the EPR permit to landfill in 2016. This backfill and restoration material was deposited for engineering structures, under a number of exemptions to the PPC permit and standard rules permits. The eastern side of the site is the location of the non-hazardous waste landfilling (drawing 1772/3/011), with the inert waste landfilling occupying the western side. It is understood that the site is split in to 3 phases, however the locations and lateral extents of these phases are unclear.

2.4 Engineering Properties

Full engineering details are contained within Section 2.3 of the 2014 HRAR, a summary is provided below for completeness.

For the area of the site with non-hazardous waste, an artificial sealing liner of minimum 500mm of engineered clay at a maximum permeability of 1×10^{-8} m/s is present on the base of the site. The

500mm engineered clay will extend along the sidewall lining system too, with stone draining installed where necessary to mitigate for any seepages in the sidewall spotted during construction. At long slopes greater than a gradient of 1 in 2, the liner will extend in lifts up the quarry walls in a 'Christmas tree formation' as the waste is placed in each cell.

For the area of inert waste, there is a minimum of 2m of material with a maximum permeability of 1×10^{-7} m/s, with no artificial sealing liner due to the inert nature of the waste. No drains are required within the area of inert waste deposits.

The conceptual layout of the completed site is shown on the cross-sectional drawings on drawing 1772/3/011.

3 Source Term

3.1 Leachate Levels

As there is no leachate monitoring infrastructure currently constructed onsite, there are no records for the leachate levels over the monitoring period.

For the purpose of modelling, the 2014 HRA Review used a fixed leachate head of 1m above base for both operational and post-closure phases of the LandSim modelling.

3.2 Leachate Chemistry

As with the leachate levels monitoring, there is no leachate quality data available for the reporting period.

The 2014 HRA Review derived a simulated leachate source term by running multiple outlier tests (statistical analysis) to the proposed waste acceptance criteria.

Table 1 – Simulated Leachate Source Term (mg/l)

Substance	Min	Most Likely	Max Recorded	Statistically Significant Max
NH4-N	0.01	0.58	16.9	8.05
Arsenic	0.0008	0.002	0.07	0.015
Cadmium	0.00005	0.000056	0.06	0.0004
Zinc	0.002	0.0071	1.59	0.044
Sulphate	29	N/A	1300	1300
Phenol	0.001	N/A	0.02	0.02

3.3 Source Term Summary

Due to there being no site specific leachate level or quality data, the values utilised for the modelling in the 2014 HRA Review are again the data only available for this HRA Review. The 2014 HRAR values are considered to be very conservative because the data was based on leachate samples from a non-hazardous landfill site. The Fletcher Bank Site however has a source term that represents both inert waste and non-hazardous waste and as such will generate a leachate with lower contaminant concentrations than non-hazardous waste alone.

4 Pathways

4.1 Geological Succession – Overview

The surrounding geological sequence comprises:

Superficial Strata:

1. Devensian Till – Boulder Clay – present off site in all directions

The underlying bedrock sequence comprises:

Bedrock Strata:

1. Helmshore Grit & Fletcher Bank Grit (Upper and Lower Leaf) – Part of the Marsden Formation - Sandstone. Sedimentary bedrock consisting of sandstones interbedded with siltstones and mudstones.
2. Main Kinderscout Grit - Part of the Hebden Formation – Sandstone. Sedimentary bedrock consisting of sandstones interbedded with siltstones and mudstones.

4.2 Superficial Geology

There are no superficial deposits present on the site itself, most probably due to their removal as part of the quarrying process, however there are superficial deposits present in the area around the site. The BGS website <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>⁶ and BGS map sheet 76 (Rochdale)⁷ identify that the site is located within an area of Devensian Till. Alluvium is present in the valley 500m west of the site, associated with the River Irwell.

The Devensian Till is the BGS description for boulder clay, and is characterised by clay rich deposits, with subordinate sand and silt lenses with very limited spatial range. There are occasional cobbles and boulders within the clay matrix.

4.3 Bedrock Geology

The site sits on the Milstone Grit Group formations comprised of the Marsden Formation sandstones and the Hebden Formation (Figure 4.1). The Marsden Formation overlies the Hebden

⁶ BGS, Geological Viewer Britain

⁷ Geological Survey of England and Wales 1:50,000 geological map series, 76 Rochdale (Solid and Drift Edition) 2008

Formation sandstones (Figure 4.2). Both the Marsden Formation and the Hebden Formation are characterised by very coarse to fine grained sandstones, often interbedded with siltstones and mudstones, and occasionally some subordinate shales and coals. The Rossendale Formation sits geologically above the Marsden Formation, consisting of coarse sandstones, however it is not present at site.

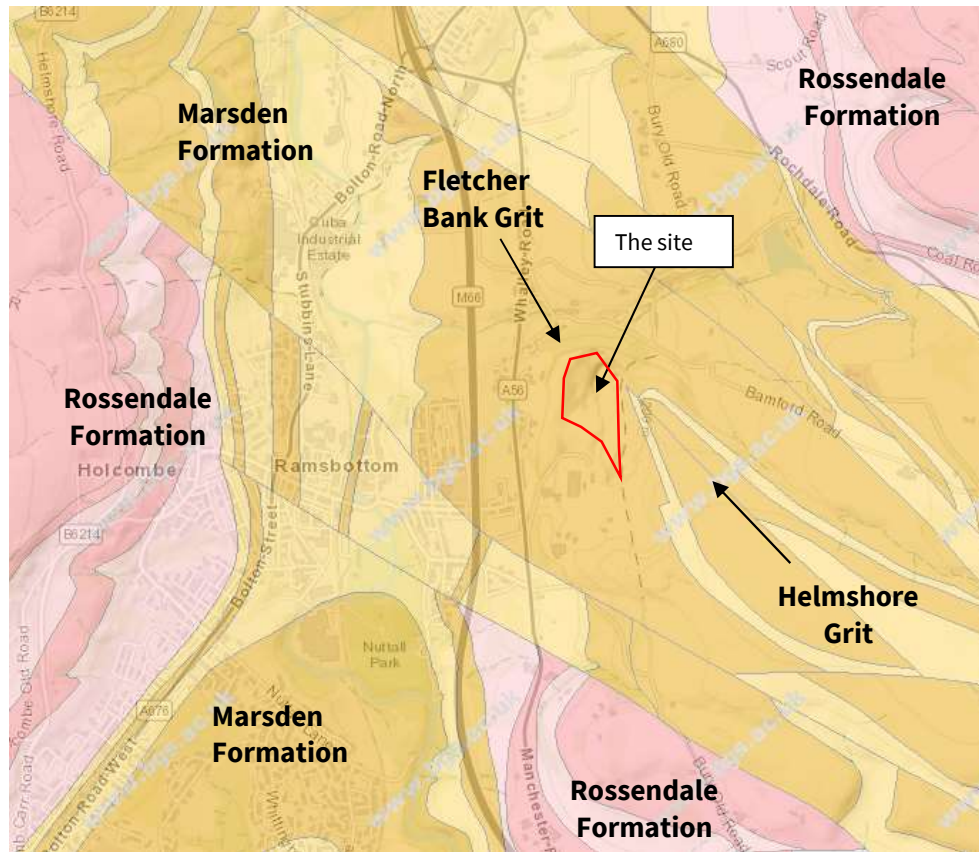


Figure 4.1 – Bedrock Geology

The 2014 HRA Review detailed the individual units within the bedrock beneath the site, isolating specific sandstone and mudstone/siltstone bands. At the site, the primary sandstone units intersected by the quarrying are the Helmshore Grit and the Fletcher Bank Grit beneath. There is approximately 3m of mudstone/siltstone between the base of the Helmshore Grit and the top of the Fletcher Bank Grit, as well as another 2m of siltstone within the Fletcher Bank Grit, separating it into an upper and lower Fletcher Bank Grit (called Upper Leaf and Lower Leaf respectively). Beneath the Fletcher Bank Grit is another mudstone/siltstone or unproven thickness.

The bedrock units are dipping 5 to 6 degrees to the north, and with the bedrock in the surrounding area heavily faulted, including a large fault onsite with a downthrow of 2.5m (2014 HRA Review).

Irwell. Park Brook is understood to be fed by springs located to the south of the site and will likely receive runoff from the southern boundary of the Fletcher Bank complex prior to discharging to the River Irwell in the west. The surface water features surrounding the site, primarily the streams, are considered to be in hydraulic continuity with the groundwater within the Millstone Grit Group, due to the steep topography and the assumption that groundwater flow follows the topography.

The Environment Agency have confirmed they have no records of any groundwater or surface water abstractions within 1km of the site.

The 2014 HRA Review identified 7 groundwater abstractions within 1km of the site, with all being north or northeast of the site. The closest are between 400m and 650m from the site. However, the presence of the Cross Bank Brook 100m to 150m north of the site is expected to present a barrier to any migration of contaminants passed this point, as the Brook is considered to be in hydraulic continuity with the groundwater due to the relative ordnance datums.

The 2016 HRA Review also identified a surface water abstraction on the Cross Bank Brook, for 34,096m³ per annum, however it is considered that this is for the small reservoirs to the east of the site, and which are no longer present.

Enquiry with the Environment Agency in 2021 as to known groundwater and surface water abstractions within 1km of the site confirmed that the Environment Agency were not aware of any abstractions currently existing within 1km of the site.

5.2 Groundwater Levels and Hydraulic Direction

The groundwater is monitored in 6 perimeter boreholes, as shown on drawing 1772/3/013 (Environmental Monitoring Plan), which are all monitoring the groundwater within the Millstone Grit Group rocks.

The monitoring borehole utilised during the past 6 years reporting period are different to those used for the groundwater monitoring in the 2014 HRA Review. Although the boreholes are monitoring similar strata, their locations are different, therefore long-term patterns cannot be attributed on a borehole-to-borehole scale. However, the general groundwater level across site and the groundwater flow direction can be directly compared between the 2014 HRA Review and this HRA Review.

For the reporting period 2015 to 2021, the following groundwater monitoring boreholes were monitored; BH803, FB104R, SLR2, FBE11-01, FBE11-02 and FBE11-02A. The groundwater levels in the current dataset still indicate a groundwater flow direction towards the north/north-west, which is concurrent with that reported in the 2014 HRA, and it appears the groundwater flow follows the topography. The groundwater drops from approximately 195mAOD and 200mAOD in the south/southeast to between 160mAOD and 170m in the north/northwest.

The groundwater level monitoring data (Figure 5.1) indicates that, for all but one of the boreholes, there is little seasonal variation in groundwater level (between 2m and 3m for boreholes FB104R,

FBE11-01, FBE11-02 and FBE11-02A, and 7m for borehole SLR2). This is similar to what is described in the 2014 HRA Review.

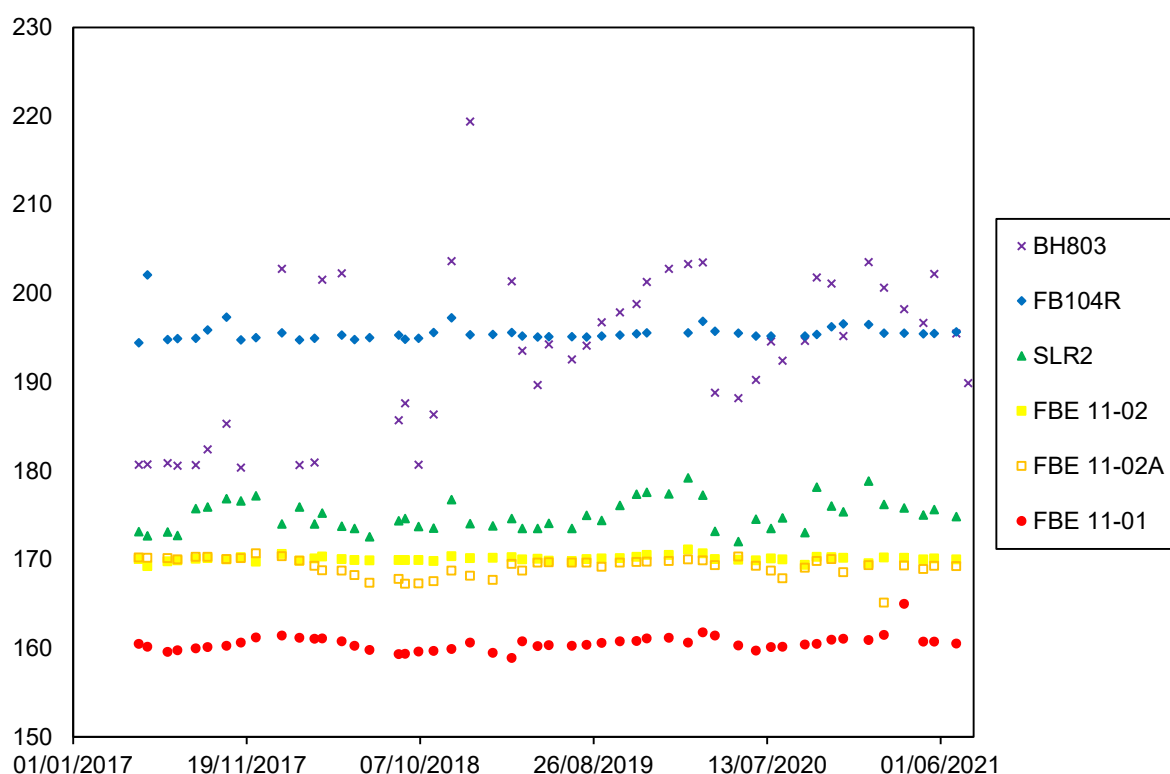


Figure 5.1 – Groundwater Levels Time Series (mAOD)

Borehole BH803 does not appear to follow the same pattern as the other boreholes, as it has large fluctuations over 20m. In addition, since mid-2018 the water level appears to undergo a cyclic gradual increase then dramatic drop in level. It is considered that this borehole is being impacted by dewatering operations for the active quarrying that has occurred to the east and southeast of the site.

Borehole BH803 is still considered to be useful for groundwater quality monitoring, as it is still located upgradient from the landfill, and as such can provide background quality data for comparison.

5.3 Groundwater Quality

Groundwater quality is monitored in the same 6 perimeter boreholes that the groundwater levels are monitored in. The groundwater is a calcium bicarbonate solution with secondary calcium sulphate, chloride and sodium chloride. Groundwater is monitored in accordance with Permit table S3.5 with water level, ammoniacal-N, chloride, electrical conductivity, and pH monitored on a quarterly basis and the remaining matrix ions and metals on an annual basis. Compliance limits are applied to boreholes FBE-11/01, FBE-11/02, FBE-11/02A and SLR2 for ammoniacal-N, chloride, cadmium and mercury (Permit table S3.2). Groundwater quality data from 2017 onwards has been

made available for the purposes of this review, with no environmental monitoring data collected in 2015 or 2016.

The groundwater matrix chemistry, which includes the primary leachate indicators ammoniacal-N, chloride and potassium is summarised in Table 2.

Table 2 – Groundwater Matrix Ions Summary (2017 – 2021)

Borehole		EC	NH4-N	Ca	Mg	K	Na	Cl	SO4	Alk
		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Upgradient										
BH803	Max	950	0.5	47	10	41	100	160	253	420
	Avg	191	0.1	14	5	7	13	12	80	63
FB104R	Max	1,200	0.3	170	63	9	28	22	453	260
	Avg	952	0.1	132	44	6	20	14	376	189
Cross-gradient										
SLR2	Max	1,600*	0.6*	58	12	82	120*	200*	254	220*
	Avg	659*	0.1*	43	8	33	44*	57*	139	132*
Down-gradient										
FB11-02	Max	416	0.3	71	6	1	16	24	31	170
	Avg	320	0.1	53	5	1	9	12	22	126
FB11-02A	Max	531	0.5	85	9	2	20	61	27	210
	Avg	325	0.1	51	7	1	10	14	21	122
FB11-01	Max	550	0.3	65	19	2	26	20	129	130
	Avg	432	0.1	54	14	1	16	13	100	75

Note: Asterix indicates where outliers removed for statistical purposes (1,100mg/l Alk on 20/02/2019, 1,050mg/l Cl, 650mg/l Na and 3,700µS/cm EC on 16/02/2021 and 2.3mg/l NH4-N on 20/05/2021 – all in borehole SLR2). Green shaded cells highlight exceedances of Drinking Water Standards (DWS), Limits: EC (2500µS/cm); Cl (chloride) & SO4 (250mg/l); Na (200mg/l); NH4-N (0.39mg/l or 0.5mg/l DWS) – http://www.legislation.gov.uk/ukxi/2016/614/pdfs/ukxi_20160614_en.pdf page 38

Concentrations for ammoniacal-N and chloride within groundwater are stable and do not indicate any impact from the landfill (Figure 5.2 and Figure 5.3). The highest concentrations of ammoniacal-N, chloride and sodium are in upgradient borehole BH803 and cross-gradient borehole SLR2. Upgradient borehole FB104R has the highest concentrations of calcium and sulphate, with average sulphate concentration (376mg/l) above the EQS for sulphate (250mg/l). The source of the elevated sulphate has been interpreted in the 2008 Environmental Management and Monitoring Plan⁹ to be from water percolating through the mudstone from a slurry lagoon upgradient of the borehole.

In the downgradient boreholes, concentrations of ammoniacal-N and chloride are typically below their respective DWS values throughout the reporting period, with the downgradient groundwater being of better quality than the upgradient groundwater. Average groundwater ammoniacal-N

⁹ TerraConsult 2008, Fletcher Bank Landfill Site: Environmental Management and Monitoring Plan: Reference 1040-1

and chloride concentrations are typically at 0.1mg/l and 14mg/l respectively in the downgradient boreholes.

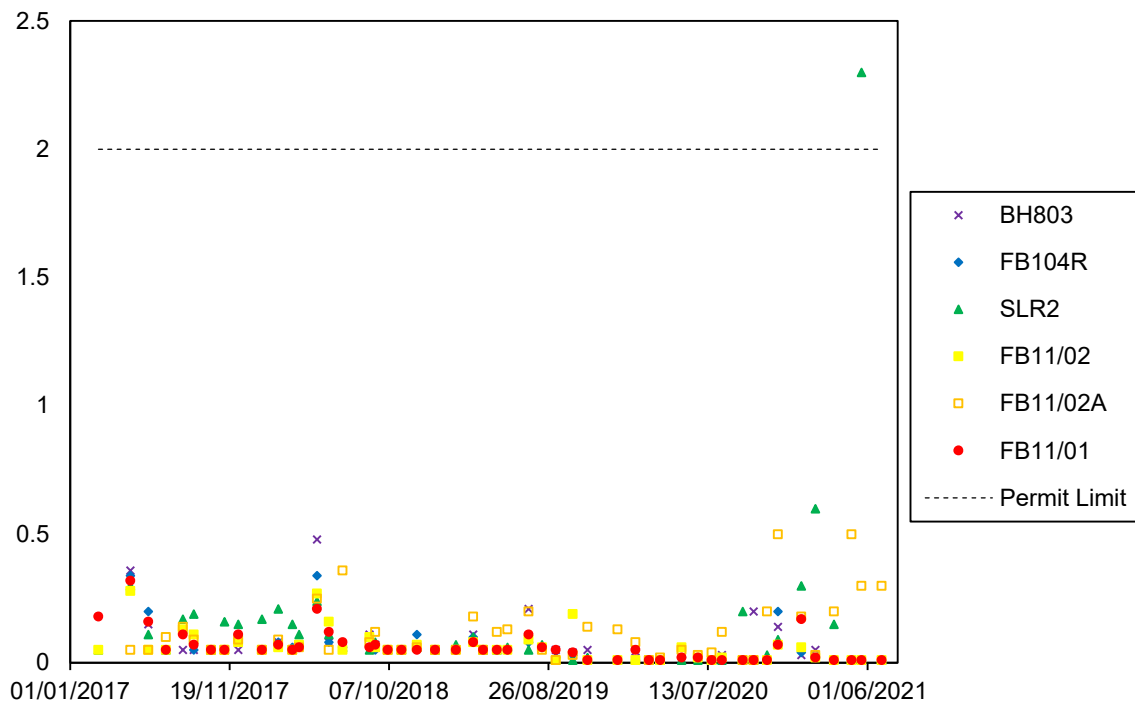


Figure 5.2 – Groundwater NH4-N (mg/l)

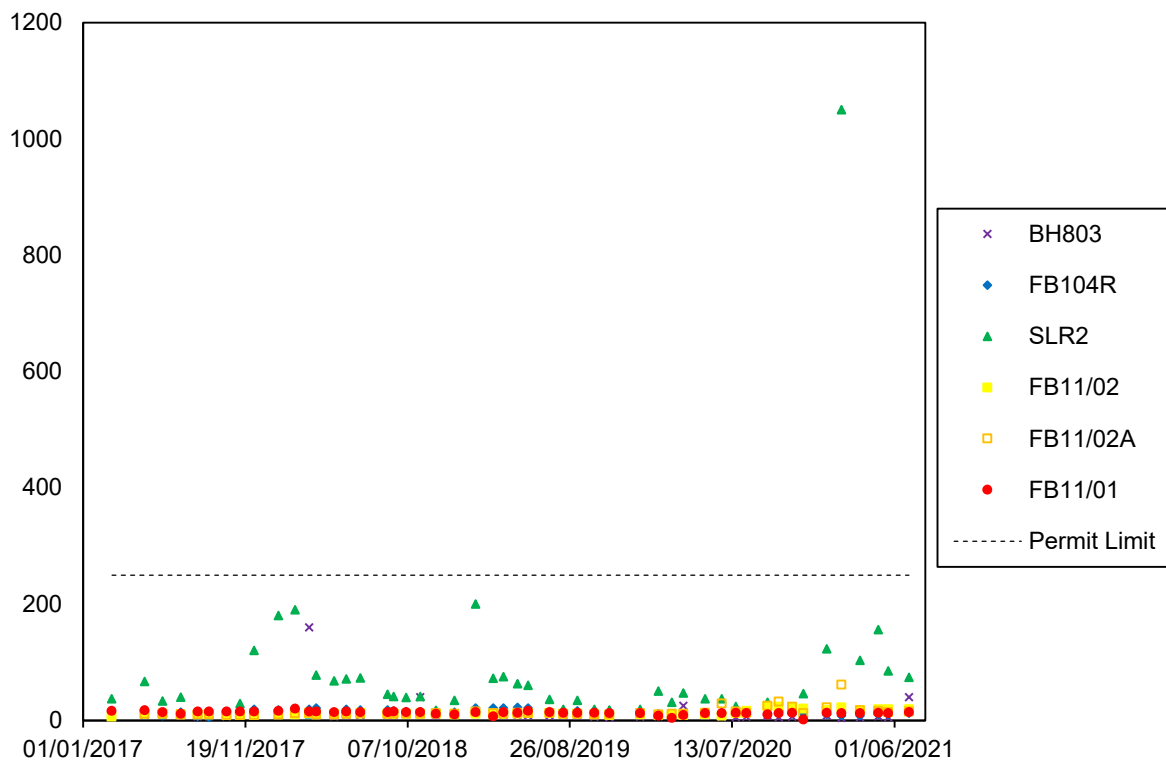


Figure 5.3 – Groundwater Chloride (mg/l)

Data reported for BH11-02A shows fluctuating concentrations of ammoniacal-nitrogen. Any increases in ammoniacal-nitrogen do not appear to coincide with chloride. SLR2 exhibited an increase in both ammoniacal-nitrogen and chloride concentrations in February 2021. The source of the elevated concentrations is not clear however the recent data indicates that concentrations have returned to within the normal range of data and the concentrations reported in February 2021 are considered as anomalous. Concentrations for ammoniacal-N and Chloride are typically stable for all boreholes, consistent with the 2014 HRA Review. Further time-series data is presented at Appendix B for the remaining compliance limited substances cadmium and mercury. As with ammoniacal-N and chloride, there are no adverse trends noted for cadmium, mercury or any other substance.

Groundwater Priority Metals

A summary of average concentrations of the priority metals is provided in Table 3 for the reporting period. The hazardous metals arsenic and mercury are not present in the groundwater down-gradient of the site, being below the limit of detection throughout the reporting period, and lead concentrations are below the limit of detection 83% of the time in borehole FB11-01, 92% of the time in FB11-02 and 100% of the time in FB11-02A.

Table 3 – Groundwater Metals Summary (2017 – 2021)

Borehole		As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
Upgradient									
BH803	Max	<1	0.21	18.0	5.3	0.6	<0.05	12.0	41.0
	Avg	<1	0.06	2.3	1.3	0.2	<0.05	3.4	11.0
FB104R	Max	<1	0.06	<1	0.8	<0.3	<0.05	5.0	9.0
	Avg	<1	0.02	<1	0.5	<0.3	<0.05	2.2	4.1
Cross-gradient									
SLR2	Max	4.0	0.29	66.0	6.0	0.9	0.08	2.0	24.0
	Avg	1.0	0.10	17.1	3.5	0.5	0.02	0.7	6.8
Downgradient									
FB11-02	Max	<1	0.23	3.0	1.5	0.4	<0.05	4.0	63.0
	Avg	<1	0.03	0.6	0.6	<0.15	<0.05	0.7	7.2
FB11-02A	Max	<1	1.70	16.0	1.7	<0.3	<0.05	20.0	20.0
	Avg	<1	0.22	1.4	0.7	<0.3	<0.05	6.1	6.6
FB11-01	Max	<1	0.30	1.0	5.5	0.6	<0.05	5.0	21.0
	Avg	<1	0.06	<1	1.0	0.2	<0.05	1.3	6.7
DWS		10	5	50	2,000	10	1	20	5,000

All the metals are below their respective Drinking Water Standards (DWS) except for the maximum chromium in cross-gradient borehole SLR2. Chromium concentrations were 66µg/l and 41µg/l

respectively in November and December 2017 in SLR2, however prior to and after these months the concentrations have been consistently below 20µg/l.

The most prevalent metal within the groundwater is zinc, with average concentrations between 4µg/l and 11µg/l and being above the limit of detection 86% of the time over the reporting period. Both the max and average concentrations are well below the DWS standard of 5,000µg/l, and the highest average concentration is in the upgradient borehole BH803.

Hazardous Organic Substances

A hazardous organics substances screen has been performed in 2019 and 2021 for the groundwater. The only substances detected were PAHs. In 2019, PAHs were detected in all 5 monitoring boreholes (BH803 was not monitored), with cross-gradient borehole SLR2 having the greatest concentrations (total PAH of 7.8µg/l). In 2021, PAHs were detected in SLR2 only. The concentration of total PAHs in 2021 for borehole SLR2 was 0.74µg/l, which is a ten-fold decrease from 2019.

Due to the difference in sampling frequency between the hazardous substances and the matrix ions, it is difficult to draw a relationship between the identification of the two data sets. However, the dates of the detection of PAHs do not appear to coincide with any increases in ammoniacal-N and chloride in SLR2 (Feb 2021)), indicating the source is not linked to waste in the site.

Due to the absence of any PAHs in the rest of the site's boreholes, and the dramatic decrease at SLR2, an assessment of PAH concentrations needs to be conducted in the following years to determine whether the decreasing trend is ongoing, and whether PAHs are detected down gradient of SLR2 in the future.

It can be determined that whatever caused the PAH in the groundwater has since been removed, and that whatever the source was, it must have been upgradient of the site.

Table 4 – Groundwater Permit limit Comparison (2018 – 2021)

Borehole	Substance	Compliance limit (mg/l)	Exceedances 2018	Exceedances 2019	Exceedances 2020	Exceedances 2021
FB11-01	NH4-N	2	0	0	0	0
	Cl	250	0	0	0	0
	Cd	0.0001	0	0	0	0
	Hg	0.0001	0	0	0	0
FB11-02	NH4-N	2	0	0	0	0
	Cl	250	0	0	0	0
	Cd	0.0001	0	0	0	0
	Hg	0.0001	0	0	0	0
FB11-02A	NH4-N	2	0	0	0	0
	Cl	250	0	0	0	0
	Cd	0.0001	1	1	1	1

Borehole	Substance	Compliance limit (mg/l)	Exceedances 2018	Exceedances 2019	Exceedances 2020	Exceedances 2021
	Hg	0.0001	0	0	0	0
SLR2	NH4-N	2	0	0	0	1
	Cl	250	0	0	0	1
	Cd	0.0001	1	2	1	0
	Hg	0.0001	0	0	0	0

A comparison of Permit Limits (as detailed in Permit table S3.2) with the observed groundwater concentrations (Table 4) indicates there were only exceedances of the permit limits for cadmium between 2018 and 2021, namely in boreholes FB11-02A and SLR2. In addition, these exceedances are isolated one-off events (cadmium time series in Appendix B), rather than sustained breaches of the permit limit as would be expected if there were leachate in the groundwater.

The low stable concentrations of typical leachate indicators ammoniacal-N chloride and sulphate (especially in FB11-02A), coupled with the low concentrations of the priority metals indicates that leachate from the landfill is not impacting the groundwater at the site. In addition, there is no correlation between highest down-gradient cadmium concentrations (FB11-02A) and any trends within the chloride or sulphate concentrations (Figure 5.4). Therefore, the source of the cadmium within the groundwater down-gradient of the site is not considered to be from fugitive leachate from the landfill site.

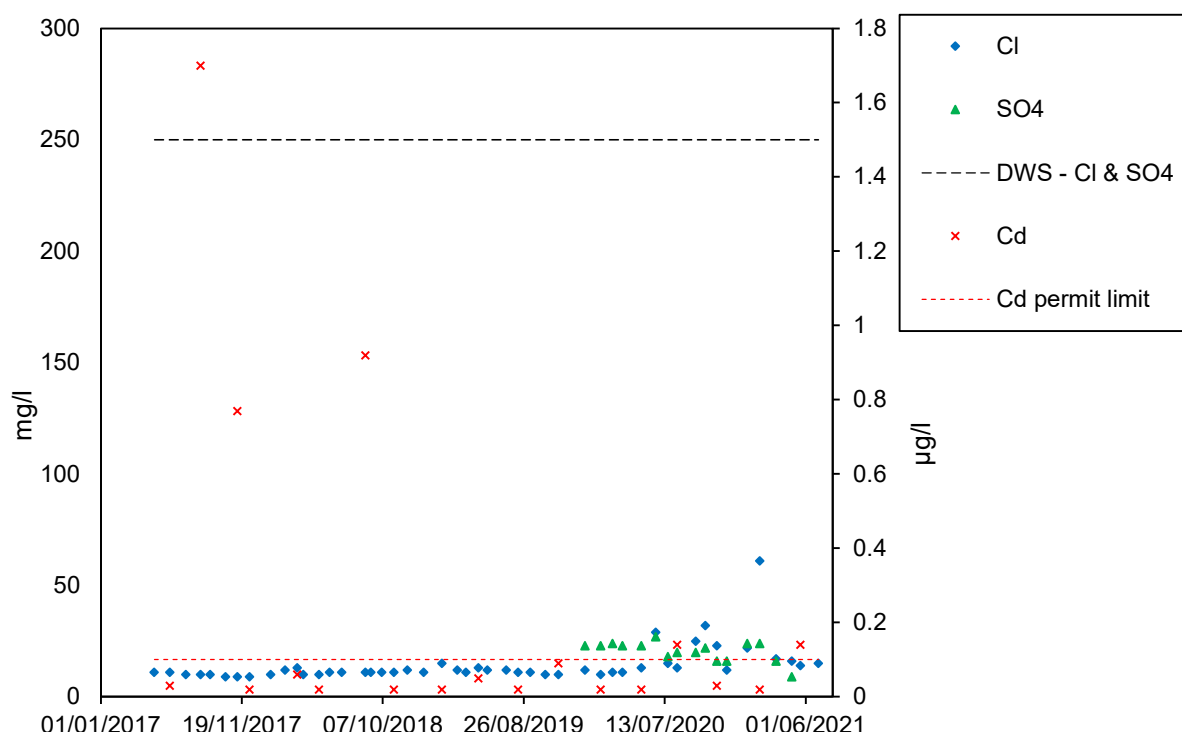


Figure 5.4 – Groundwater Chloride, Sulphate and Cadmium in FB11-02A

In addition to the source of the cadmium down-gradient of the site not being linked to leachate due to the lack of other leachate indicators within the groundwater, cadmium concentrations in

the upgradient borehole BH803 are above the down-gradient compliance limit of 0.1µg/l on 5 occasions between 2018 and 2021, indicating cadmium is present upgradient of the landfill. Therefore, cadmium is not considered to be a suitable compliance limited substance to detect for failure of the engineered control system of the landfill site.

5.4 Surface Water Quality

Surface water monitoring is undertaken at 2 locations, SW1 and SW2, both of which are on the Cross Bank Brook. SW1 is considered the upstream monitoring point, located northeast of the site, and SW2 is considered the downstream monitoring point, located northwest of the site (drawing 1772/3/013).

All sampling is done as per Table S3.8 of the permit. The permit requires the monthly monitoring of surface water for ammoniacal-N, chloride, EC, pH and suspended solids.

Surface water monitoring (summarised in Table 5 and charts in Appendix B), indicates no discernible impact from the landfill, with average ammoniacal-N and chloride concentrations well below their respective environmental standards (0.39mg/l for ammoniacal-N and 250mg/l for chloride).

Table 5 – Surface Water Monitoring Summary (2017 – 2021)

Monitoring Point		NH4-N	Cl	EC	pH	Suspended Solids
SW1	Max	0.3	19	310	7.8	52
	Avg	0.1	9	141	7.3	16
SW2	Max	0.8	30	350	7.8	37
	Avg	0.1	15	214	7.3	14

Note: Outliers removed for NH4-N, Cl and EC (2.4mg/l, 360mg/l and 760µS/cm respectively) for SW1, and NH4-N and Cl (2.7mg/l and 660mg/l respectively) for SW2, all on 27/02/2017. Single outlier of 2,200mg/l suspended solids removed for SW1 on 26/03/2018.

5.5 Receptor Summary

There are effectively two receptors which could be affected by the Fletcher Bank landfill site, these have not changed since the previous HRAR, namely:

- Groundwater within the Millstone Grit Group
- Surface Water

The water quality data review within this document has not identified any deterioration in water quality at any of the monitored boreholes or surface water monitoring points that can be attributed to the operation of the landfill.

6 Conceptual Site Model

6.1 Source-Pathway-Receptor Framework

A simple conceptual model can be constructed for the site, based on the relationship

Source → Pathway → Receptor

Where the

- landfill is the source,
- the Pathway is the sidewall engineering and the geological pathway towards a water resource; and
- the receptor is an underlying or adjacent water resource.

The conceptual model is unchanged from previous understandings; based on an engineered clay liner of 1×10^{-8} m/s permeability in the non-hazardous area of the site and a compacted *in-situ* quarry backfill of 1×10^{-7} m/s permeability for the inert area of the site restricting vertical leachate migration through the base of the site. An unsaturated zone of 4m beneath the site to groundwater is also present, providing attenuation potential for the vertical migration of leachate through the base of the site. An engineered clay sidewall liner of 1×10^{-8} m/s permeability is also present to restrict horizontal leachate migration through the side of the site.

The leachate strategy for the site is based on the principle of the leachate quality being of sufficiently low strength due to the nature of the inert and non-hazardous waste, therefore not requiring any leachate management.

6.2 Requirement for Remodelling

Previous modelling in 2014 considered the following substances NH₄-N, arsenic, cadmium, sulphate, zinc and Phenol.

As there is no leachate quality or leachate level data, the leachate source term is assumed to be within the previous HRA assumptions. However, in reality it is likely to have lower concentrations of all substances due to the presence of the inert fill within the site, when the concentrations modelled were just for the non-hazardous Waste Acceptance Criteria.

Groundwater and surface water monitoring indicates no impact on the surrounding environment from leachate from the landfill.

It is not proposed at this point (based on the above) to undertake additional modelling, however if future requirements dictated by changes to the conceptualisation are identified then future modelling may be required.

7 Risk Assessment

7.1 Justification for Modelling Approach and Software

The modelling performed in 2014 utilised LandSim (Version 2.5), as approved by the Environment Agency, due to the presence of an unsaturated zone beneath the site.

LandSim (Version 2.5) is a probabilistic model that allows the representation of uncertainty in key input parameters by the requirement for specification of input data ranges and distribution types. LandSim generates estimates of impacts at receptors based on statistical probability, i.e., it generates estimates of the likelihood and timing of impacts occurring at specified receptors downgradient of the landfill. In order to calculate a robust 95%ile value, the results are calculated over 999 model iterations and are presented indicating the likelihood of chemical breakthrough at a specified receptor or compliance point.

The LandSim model is designed and constructed to assess the performance and hence risk associated with discharged to groundwater over the full lifecycle of the landfill. The scenarios simulate the effects of the operational and post closure stages of the landfill incorporating capping.

The source term, as explained in Section 3, is derived from statistical analysis of the Waste Acceptance Criteria for the specific non-hazardous wastes that are permitted to be deposited under the permit, which are non-hazardous soils. The source term didn't use values for the inert waste. No degradation of the cap or lining system was required, as the landfill does not have a flexible membrane liner, and leachate levels are expected to be limited to infiltration and seepage rather than through any leachate level management.

Although LandSim is a probabilistic model, and therefore reduces the need for retrospective sensitivity analysis to clarify how specific parameters influence the overall results; a sensitivity analysis was conducted to determine the likely impact of rising groundwater levels upon a thinner unsaturated zone.

As the engineering and hydrogeological setting of the site has not changed, the modelling approach is still deemed appropriate should future modelling be required.

7.2 Previous Emissions to Groundwater

The 2014 modelling using LandSim provided simulated emissions of the hazardous substances cadmium and arsenic at concentrations below their respective minimum reporting values (MRVs) at the immediate downgradient boundary of the site. The model also simulated emissions of the non-hazardous substance ammoniacal-N, zinc, phenols and sulphate at either well below their respective EAL or not posing a risk of breaking through to the receptor.

8 Review of Technical Precautions

8.1 Engineering Measures

The landfill site was constructed based on engineered containment and comprises

- Engineered clay basal and sidewall liner
 - Engineered basal lining system, 0.5m Clay (non-hazardous waste area) at 1×10^{-8} m/s permeability. 2m historic quarry waste and imported soils (inert waste area) at 1×10^{-7} m/s permeability.
 - Engineered sidewall lining system, 0.5m Clay (non-hazardous waste area only) at 1×10^{-8} m/s permeability, in a 'Christmas-tree' design.
- Engineered groundwater seepage drains
 - Engineered 1x1m stone drains around the perimeter of the site to intercept groundwater seepages, covered with a geotextile to prevent ingress of fines.

The engineering precautions were designed to ensure that the requirements of the groundwater and landfill directives were met.

8.2 Active Management

The site is not currently capped; however no active management of leachate levels currently occurs due to the lack of leachate extraction infrastructure. Groundwater is passively managed via the use of gravel drains around the sidewalls of the landfill.

9 Requisite Surveillance

Surface water and groundwater monitoring is undertaken in accordance with the schedules contained within the site's Environmental Permit. Leachate requisite surveillance is outlined within the permit, and upon the construction of the leachate collection and monitoring infrastructure at the site leachate monitoring will be performed as per Table S3.1 and Table S3.7 of the permit.

Leachate

Table S3.1 of the permit states a leachate head limit of 5m above cell base for both operational and non-operational cells. Leachate quality is required to be monitored in accordance with Table S3.9 of the permit, which is summarised below in Table 6.

Table 6 – Leachate Quality Requisite Surveillance

Monitoring Point Reference	Parameter	Monitoring Frequency	Monitoring Standard
Operational Cells or Phases (Any cells or phase that does not have a final engineered cap in accordance with condition 2.6)			As specified in Environment Agency Guidance TGN02 ‘Monitoring of Leachate, Groundwater and Surface Water’ (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
MEPP	pH, EC, total alkalinity, ammoniacal-N, chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc and manganese	Quarterly	
MEPP	Hazardous Substances	Annually	
MEPP	Depth to base (mAOD)	Annually	
Non-Operational Cells or Phases (Any cell or phase that has final engineered capping in accordance with condition 2.6)			
MEPP	pH, EC, total alkalinity, ammoniacal-N, chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc and manganese	Annually	
MEPP	Hazardous Substances	Once every four years	
MEPP	Depth to base (mAOD)	Annually	

Groundwater

Groundwater monitoring is conducted in accordance with Table S3.5 of the permit and is summarised below in Table 7. Groundwater compliance limits are outlined in Table S3.2 of the permit. The revised Table S3.2 is summarised in Table 8 below.

Table 7 – Groundwater Requisite Surveillance

Monitoring Point	Parameter	Monitoring Frequency	Monitoring Standard
Up gradient MEPP (BH803 & FB104R)	Water level, EC, chloride, ammoniacal-N, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental
	Total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium,	Annually	

Monitoring Point	Parameter	Monitoring Frequency	Monitoring Standard
	copper, iron, lead, nickel, zinc, manganese		permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Hazardous substances	Annually for first six years of operation	
Down or cross gradient MEPP (SL2, FBE11-01, FBE11-02 & FBW11-02A)	Water level, EC, chloride, ammoniacal-N, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
MEPP (BH803, FB104R SL2, FBE11-01, FBE11-02 & FBW11-02A)	Base of monitoring point (mAOD)	Annually	After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.

Table 8 – Groundwater Compliance Limits

Monitoring Point Reference	Parameter	Limit (including unit)	Monitoring Frequency	Monitoring Standard	Other Specifications
FBE-11/01, FBE-11/02, FBE-11/02A, SLR2	Ammoniacal-N	2 mg/l	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l	Monthly		
	Mercury	0.0001 mg/l	Quarterly		

Although changes to the compliance limits were proposed within the 2014 HRA review, they were not applied for. The inclusion of cadmium as a compliance limited substance is considered inappropriate for down-gradient groundwater monitoring. As the analysis of the groundwater data has shown there are concentrations of cadmium within the groundwater downgradient of the site that cannot be linked to fugitive leachate from the site, as there is no correlation with other typical leachate indicator species such as ammoniacal-nitrogen, chloride and sulphate. Therefore, there must be a source of cadmium within the groundwater that is not linked to the landfill thus making it an unsuitable substance to detect failure of the engineering control measures.

Surface Water

Surface water monitoring is conducted in accordance with Table S3.8 of the permit and is summarised below in Table 9.

Table 9 – Surface Water Requisite Surveillance

Monitoring Point Reference	Parameter	Monitoring Frequency	Monitoring Standard	Other Specifications
MEPP (SW1 & SW2)	Ammoniacal-N, chloride, suspended solids, visual oil and grease, pH and EC	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 ‘Monitoring of Leachate, Groundwater and Surface Water’ (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.

10 Conclusions

The groundwater and surface water environmental monitoring conducted at the site between 2017 and 2021 indicates that there is no clear impact from the landfill site on the surrounding environment.

Modelling is not considered necessary for the following reasons: the environmental monitoring indicates that the site is not impacting the surrounding environment; and in the absence of source term data, the site is assumed to be operating within the assumptions of the previous HRA. The non-hazardous source term modelled previously for the site is incredibly conservative since the extant permit allows only for the use of inert fill.

The site operator is required to construct the necessary leachate monitoring infrastructure to assess leachate level compliance against the leachate level limits outlined in Table S3.1 of the permit. Additionally, the monitoring data obtained from the proposed leachate monitoring points will help inform the site conceptual model.

The Fletcher Bank landfill site is designed to be operated as an engineered containment landfill site. This HRAR has been undertaken for the site which demonstrates there are no changes to the CSM or current management practices.

The Landfill Regulations have been superseded by The Environmental Permitting (England and Wales) Regulations 2016. Both these regulations implement the same underlying Landfill Directive therefore the justifications for compliance remain the same for both sets of regulations.

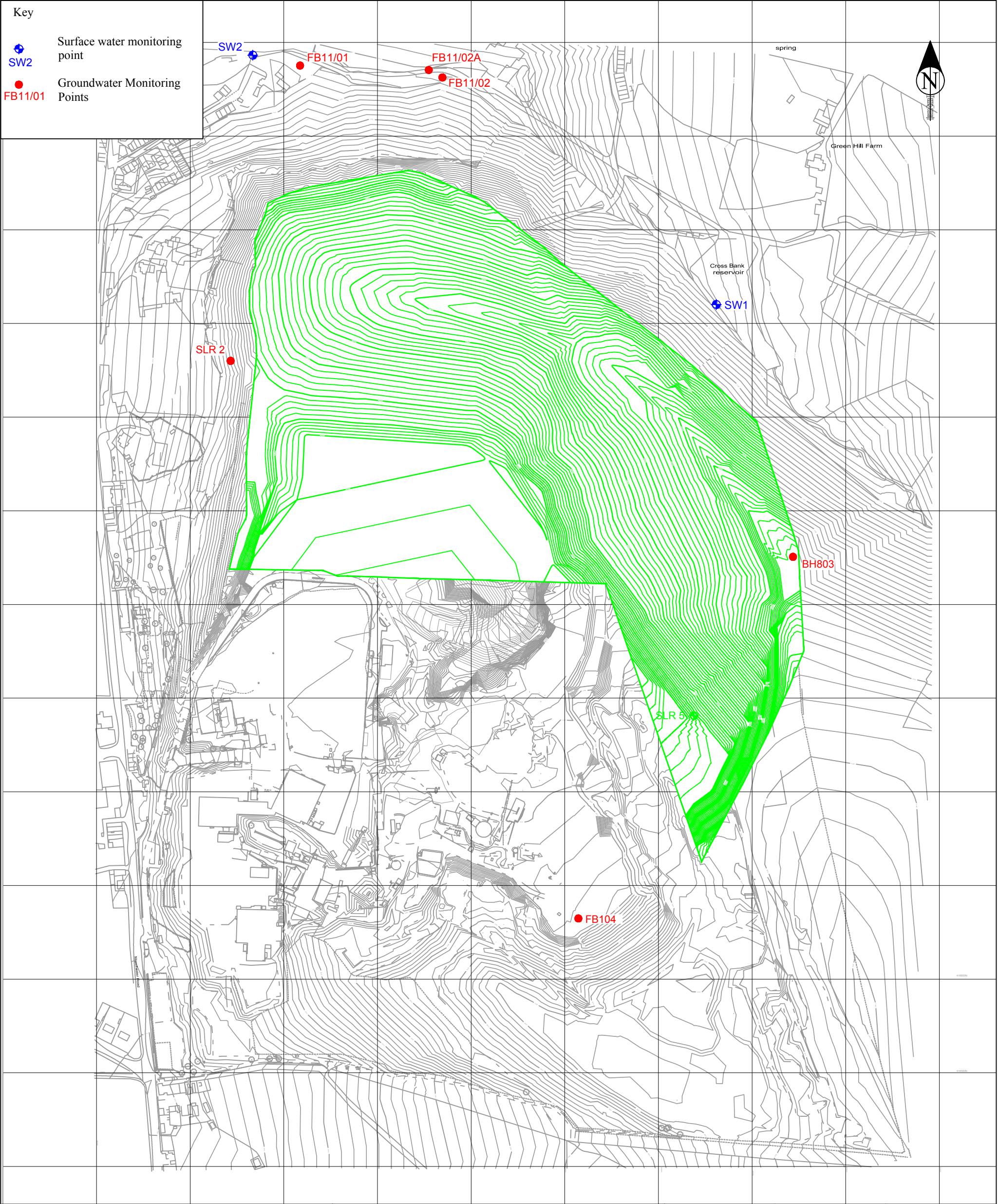
The conclusions of this review are consistent with those from previous HRAR’s, namely that:

- The development does not pose a hazard to groundwater and surface water quality, subject to the technical precautions identified with regards to passive controls (*i.e.* engineered containment) and operational leachate management is being implemented;

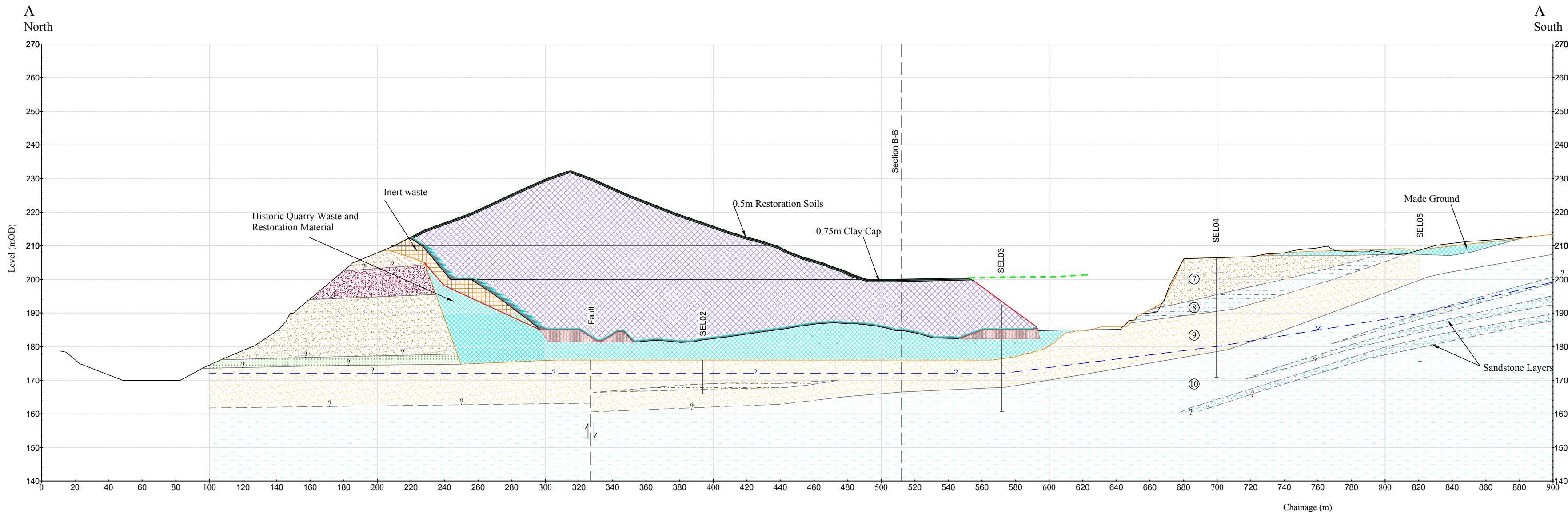
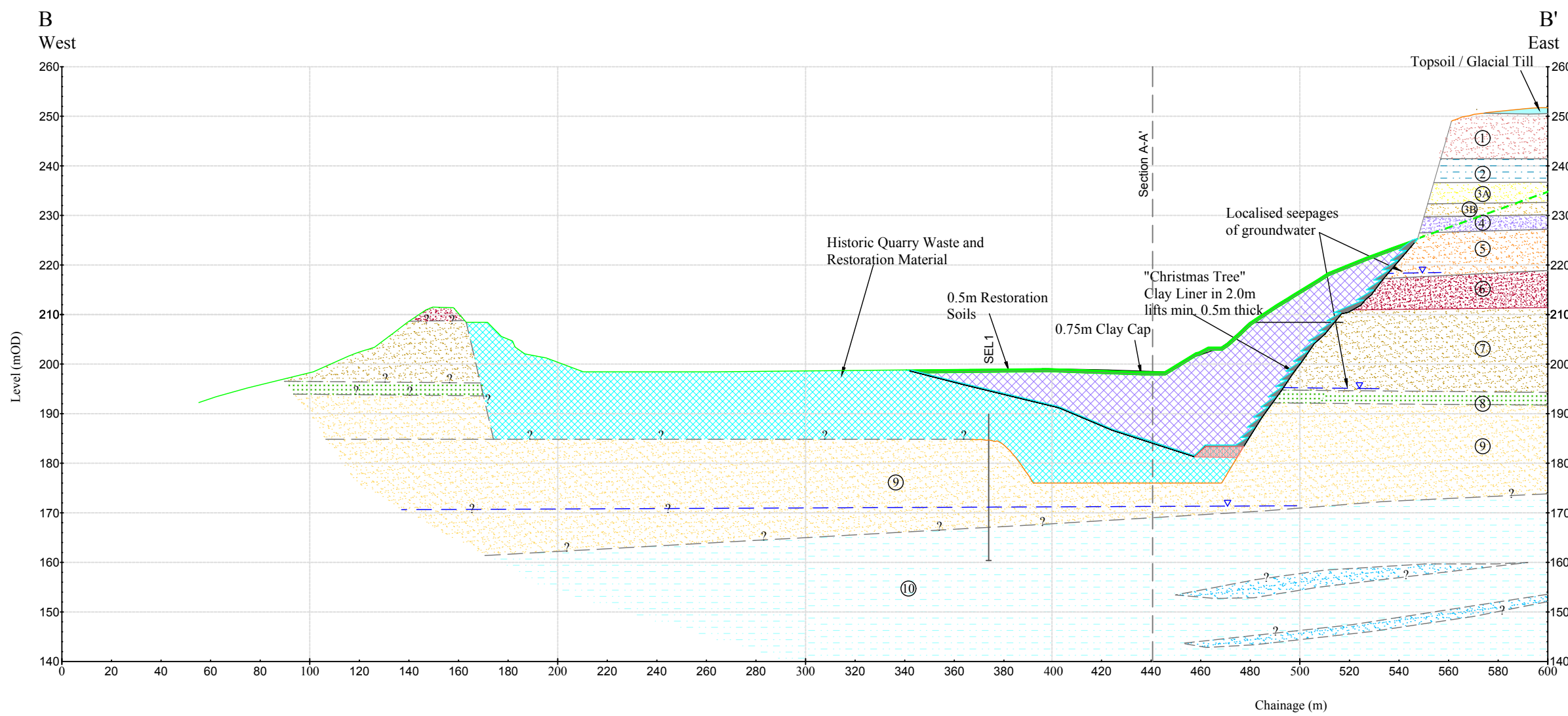
The site therefore complies with the necessary Environmental Permitting Regulations (Schedule 10, Landfill).

Analysis of the environmental monitoring indicates that there is not considered to be any impact from the landfill on the identified receptors, namely the groundwater in the underlying Millstone Grit Group, and the surface water around the perimeter of the site.

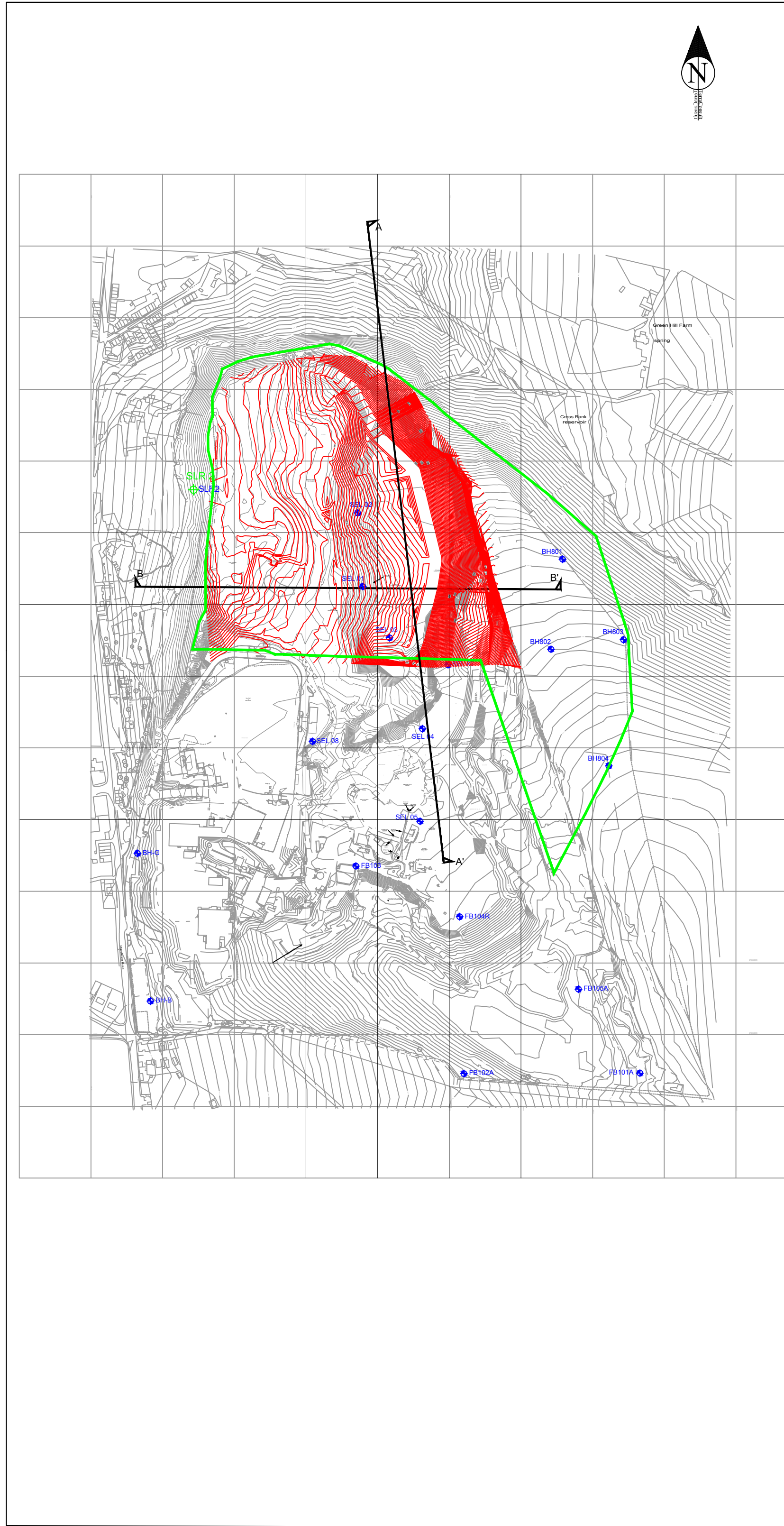
Appendix A – Drawings



<div><div><div>TerraConsult</div></div><div><div>Bold Business Centre, Bold Lane, Sutton, St Helens WA9 4TX</div></div><div><div>Client</div><div>Churchill Enviro Ltd.</div></div></div> <div><div>Site</div><div>Fletcher Bank Landfill Site</div><div>Title</div><div>Environmental Monitoring Plan</div></div> <div><div><div>Scale</div><div>1:4,000</div><div>@ A3</div></div><div><div>Drawing No.</div><div>1772/3/013</div></div><div><div>Rev</div><div>Date</div><div>Description</div></div><div><div>A</div><div>25/04/16</div><div>Added Leachate points</div></div><div><div>B</div><div>23/08/16</div><div>Added Eastern BH Mon location</div></div><div><div>C</div><div>24/08/16</div><div>Added Western BH Mon location</div></div><div><div>D</div><div>30/09/16</div><div>Groundwater Monitoring Points Added</div></div><div><div>File</div><div>17723013envmonplan Rev D.dwg</div></div><div><div>Date</div><div>09/16</div><div>Engineer</div><div>RB</div></div><div><div>Drawn</div><div>PG</div><div>Checked</div><div>RB</div></div></div>
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Sections
Scale H=1:2,000
V=1:1,000



Plan
Scale: 1:5,000

- Key**
- Permit Application Boundary
 - Formation Contours
 - Exploratory Borehole
- Sections**
- August 2010 Topographic Survey Profile
 - Formation Profile
 - Approx. Top of Lining System Profile
 - Approx. Top of Capping Profile
 - Engineered Bunds / Formation Layer
 - Engineered Clay Liner (0.5m) / Cap (0.75m)
 - Restoration Soils (1.0m)
 - EP Waste Deposits
 - Historic Quarry Waste and Restoration Material
 - Groundwater (highest recorded)

- 1 Medium to thick beds of light yellow brown SANDSTONE (weathered at top)
- 2 Dark grey (typically weathered red brown in places) fissile MUDSTONE
- 3A Thin to medium beds of orange brown SANDSTONE inter-bedded with thin beds and laminations of shale and siltstone
- 3B Medium to thick beds of yellow brown SANDSTONE
- 4 Laminated grey MUDSTONE, SILTSTONE and fine SANDSTONE inter-bedded with beds of sandstone. Base of unit marked by medium band of black coal underlain by greenish grey siltstone
- 5 Thick to very thick beds of light yellow brown medium to coarse SANDSTONE (HELMSHORE GRIT)
- 6A Dark grey MUDSTONE and SILTSTONE (unit 6A) over thin to medium beds of yellow brown SANDSTONE with occasional beds of dark grey siltstone / mudstone (unit 6B)
- 6B
- 7 Thick to very thick beds of light brownish grey medium to coarse SANDSTONE (FLETCHER BANK GRIT UPPER LEAF)
- 8 Laminated grey SILTSTONE and fine SANDSTONE.
- 9 Brownish grey medium to coarse SANDSTONE (Fletcher Bank Grit Lower Leaf). In places interbedded with finer beds of mudstone and siltstone
- 10 Mudstone / Siltstone with minor bands of sandstone.

Notes

Colours included in generalised description are based on that observed in fresh exposure of rock.

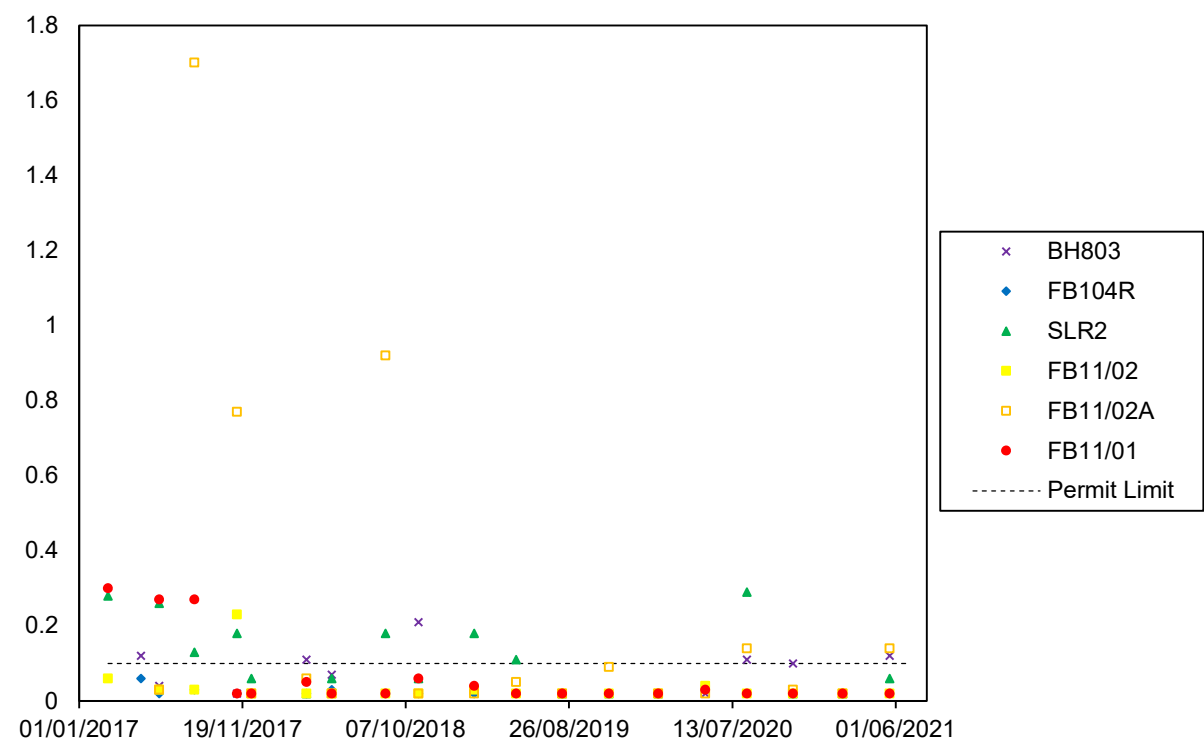
Question marks denote a high level of uncertainty.

Analysis of boreholes SEL09, SEL03, SLR4 and 5 and BEL5 indicates that strata dip in a northerly direction at between 5-6 degrees. Becoming shallower in places.

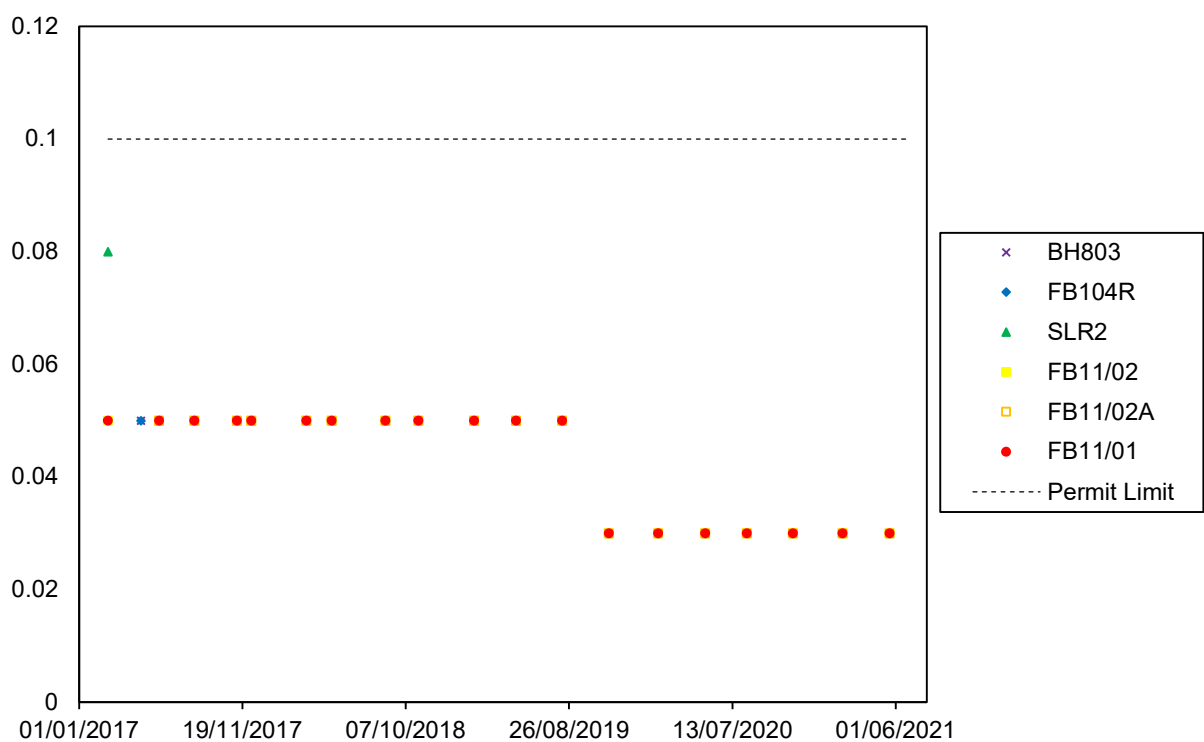
TerraConsult		
Bold Business Centre, Bold Lane, Sutton, St Helens WA9 4TX		
Client Churchill Enviro Ltd.		
Site Fletcher Bank Quarry Landfill		
Title Hydrogeological Cross Sections		
Scale	As Shown	@ A1
Drawing No.	1772/3/011	
Rev	Date	Description
File	17723011hydrogeosections.dwg	
Date	08/14	Engineer PR
Drawn	PT	Checked RB

Appendix B – Groundwater Quality

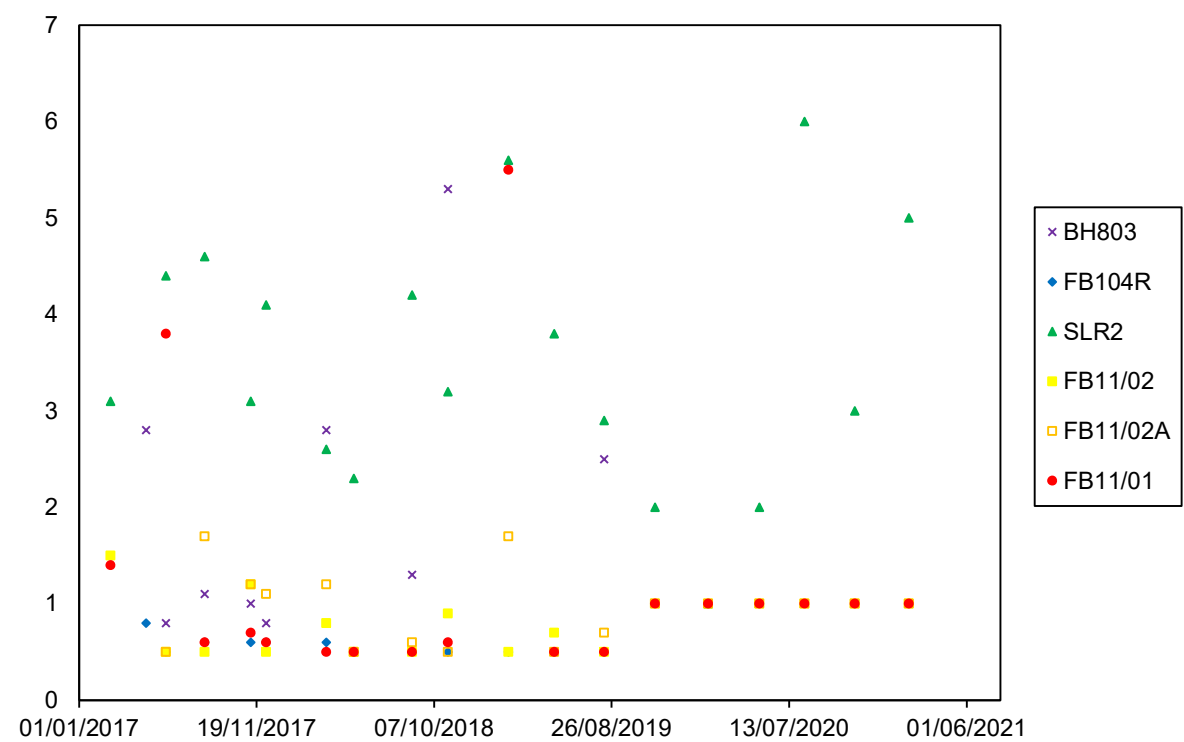
B1 – Groundwater Cadmium (µg/l)



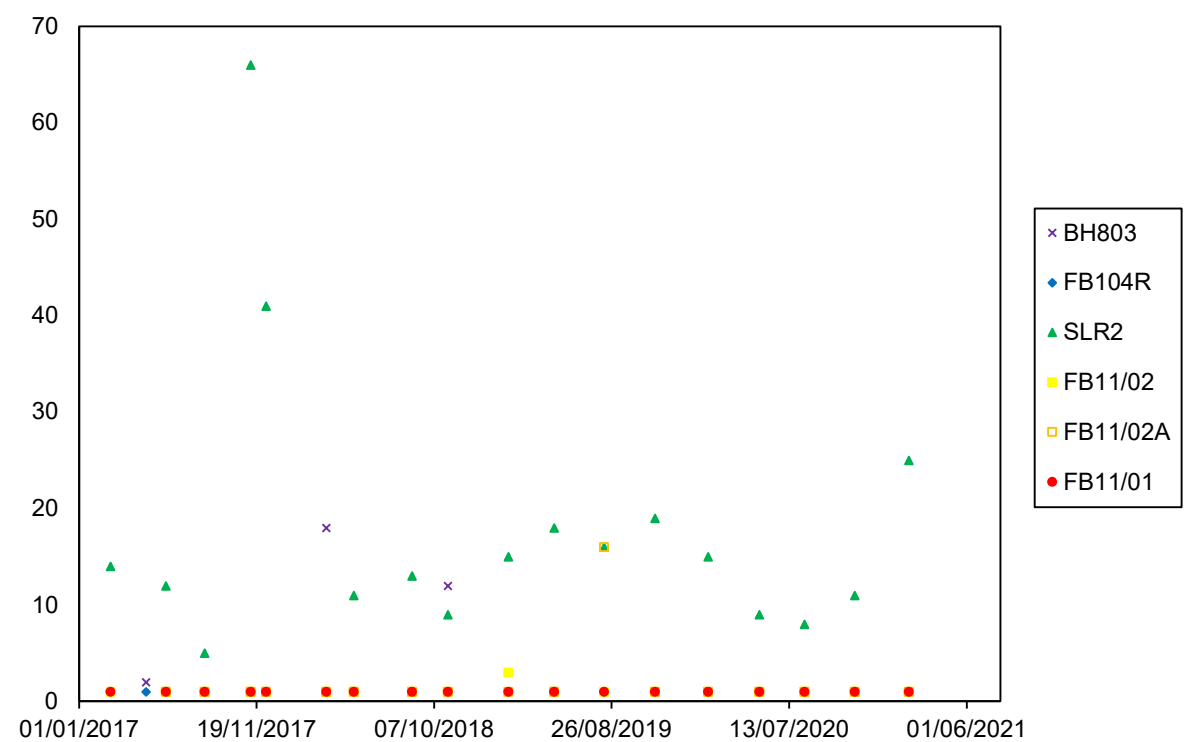
B2 – Groundwater Mercury (µg/l)



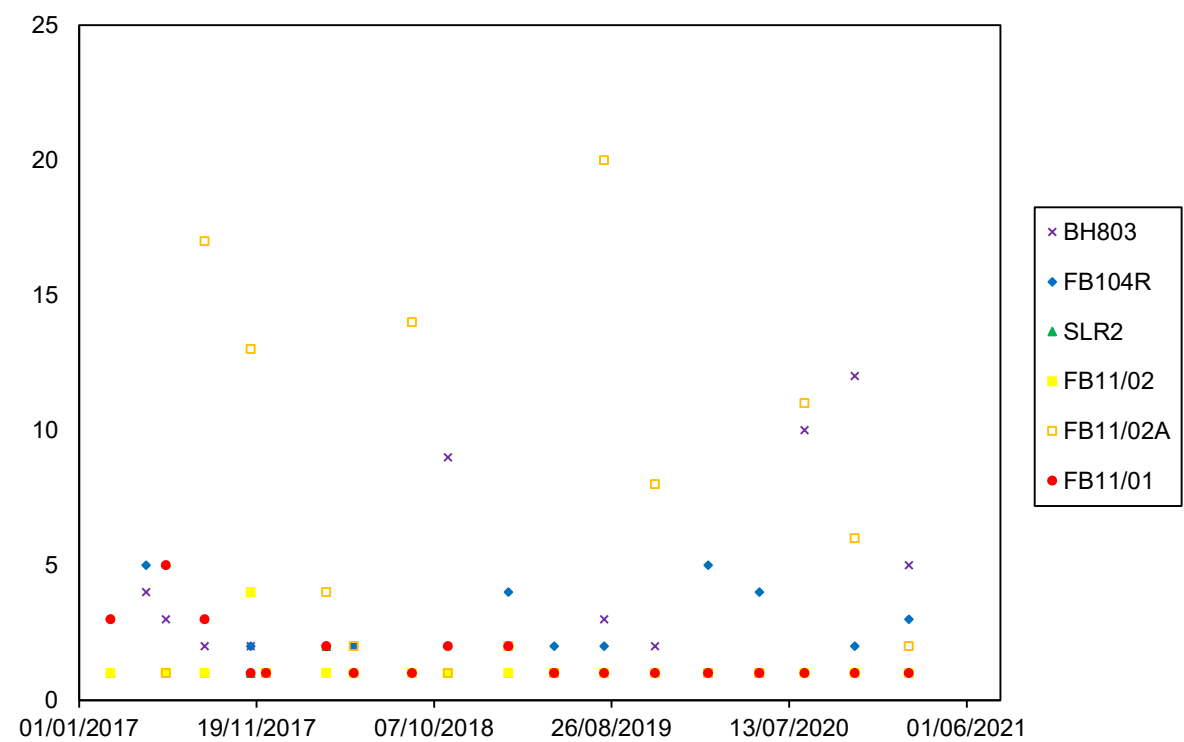
B3 – Groundwater Copper (µg/l)



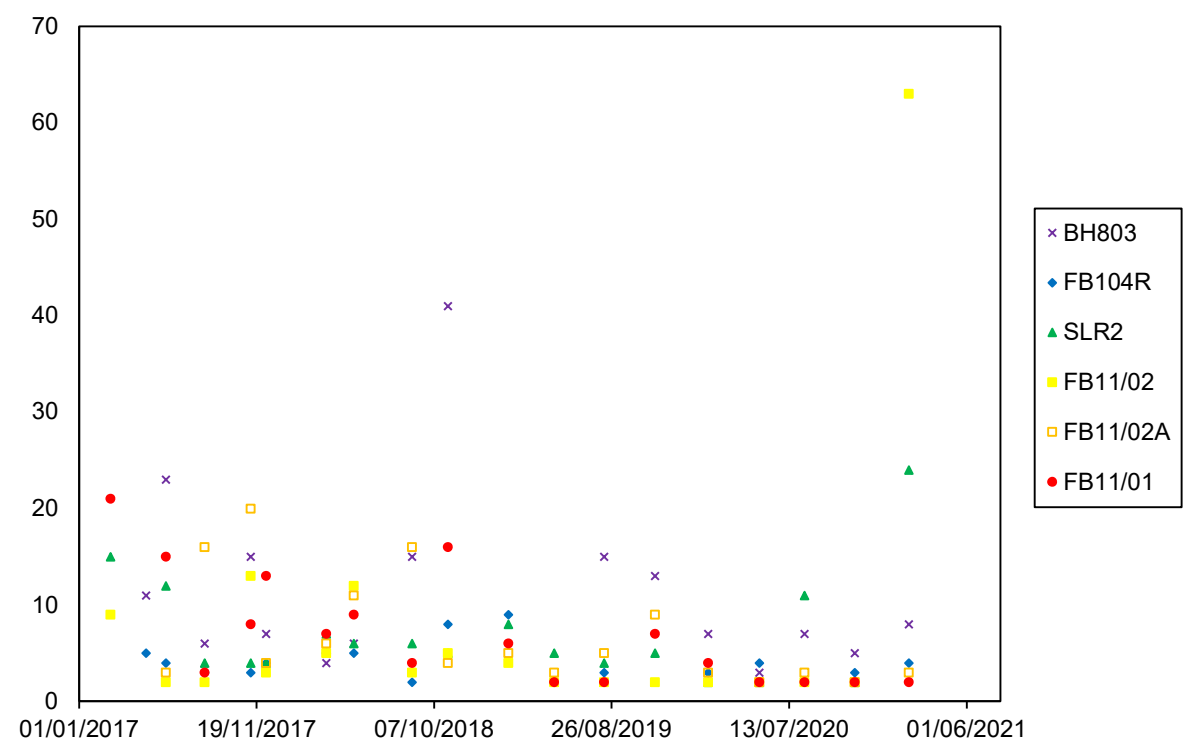
B4 – Groundwater Chromium (µg/l)



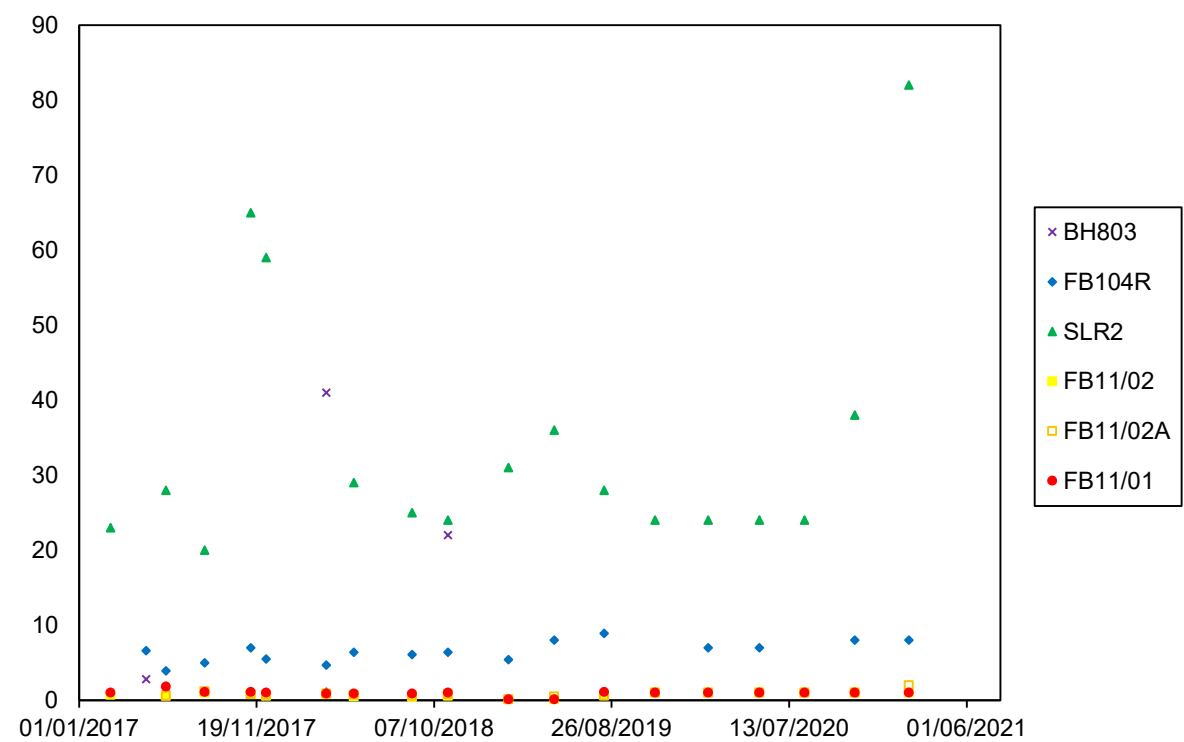
B5 - Groundwater Nickel (µg/l)



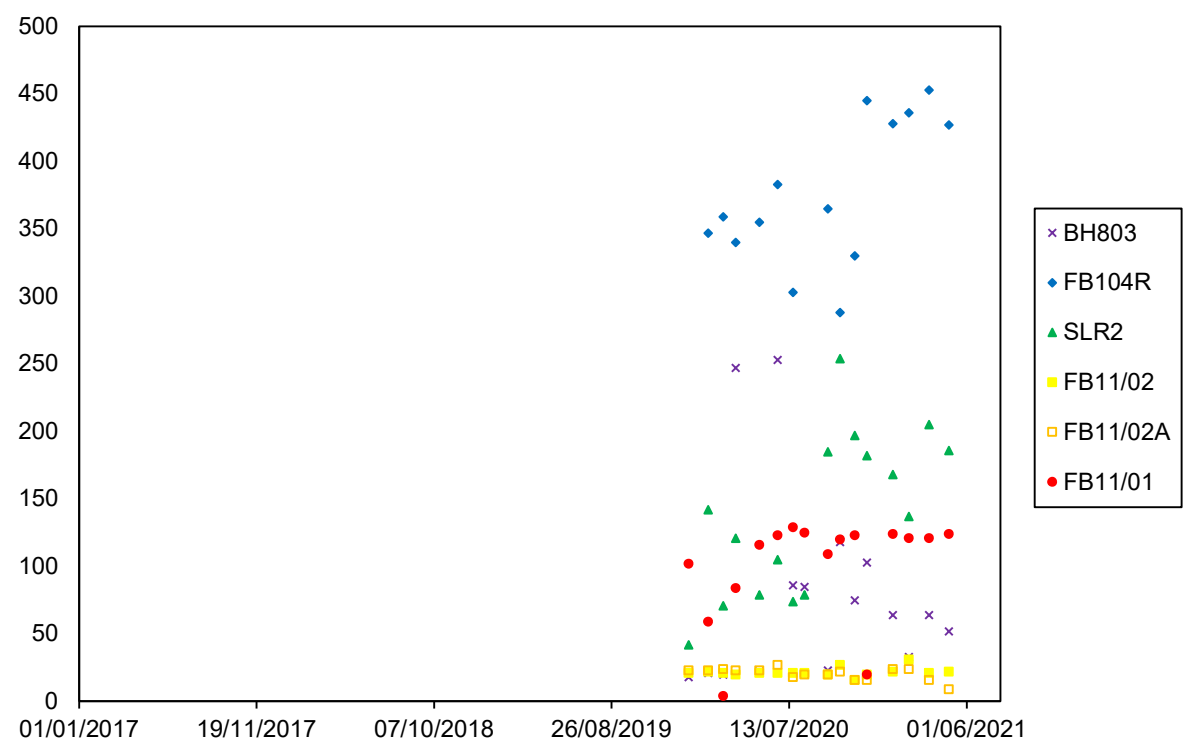
B6 - Groundwater Zinc (µg/l)



B7 - Groundwater Potassium (mg/l)

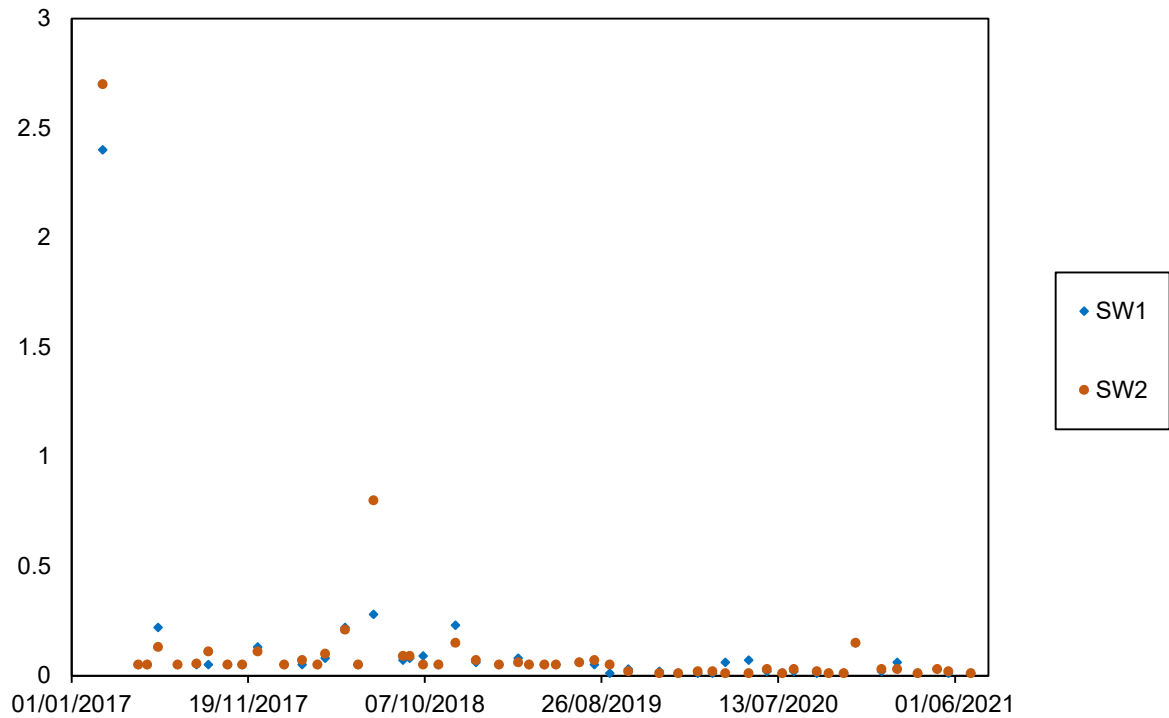


B8 - Groundwater Sulphate (mg/l)

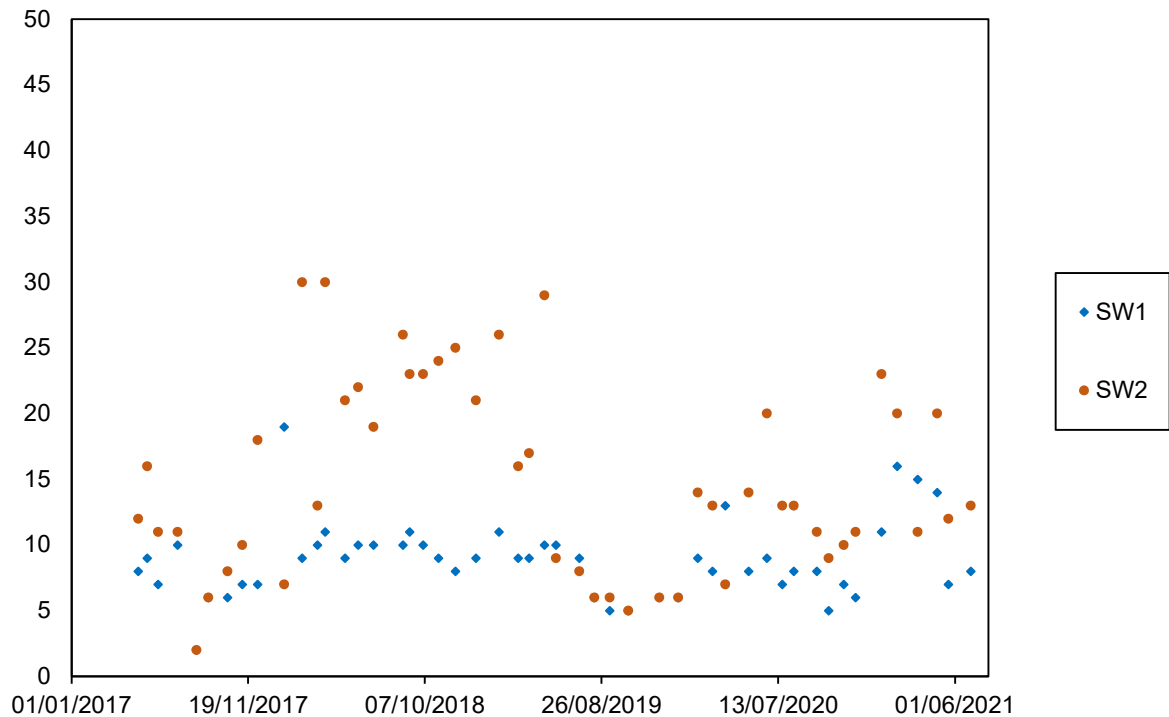


Appendix C – Surface Water Quality

C1 – Surface Water Ammoniacal Nitrogen (mg/l)

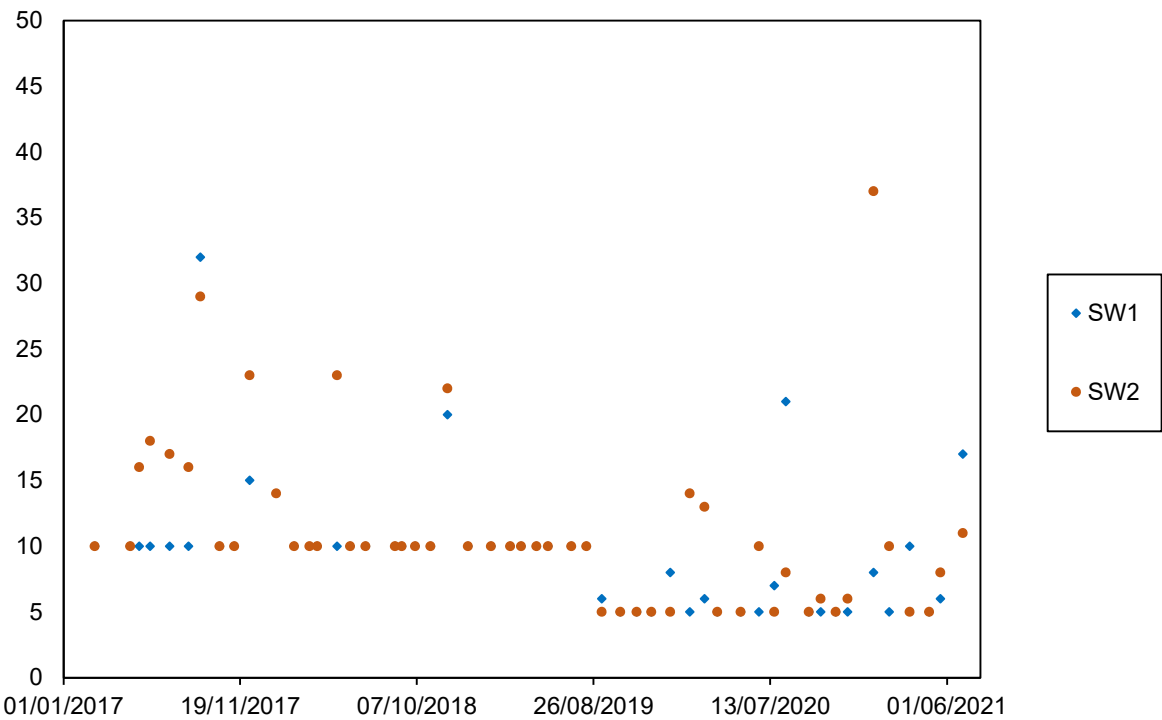


C2 – Surface Water Chloride (mg/l)



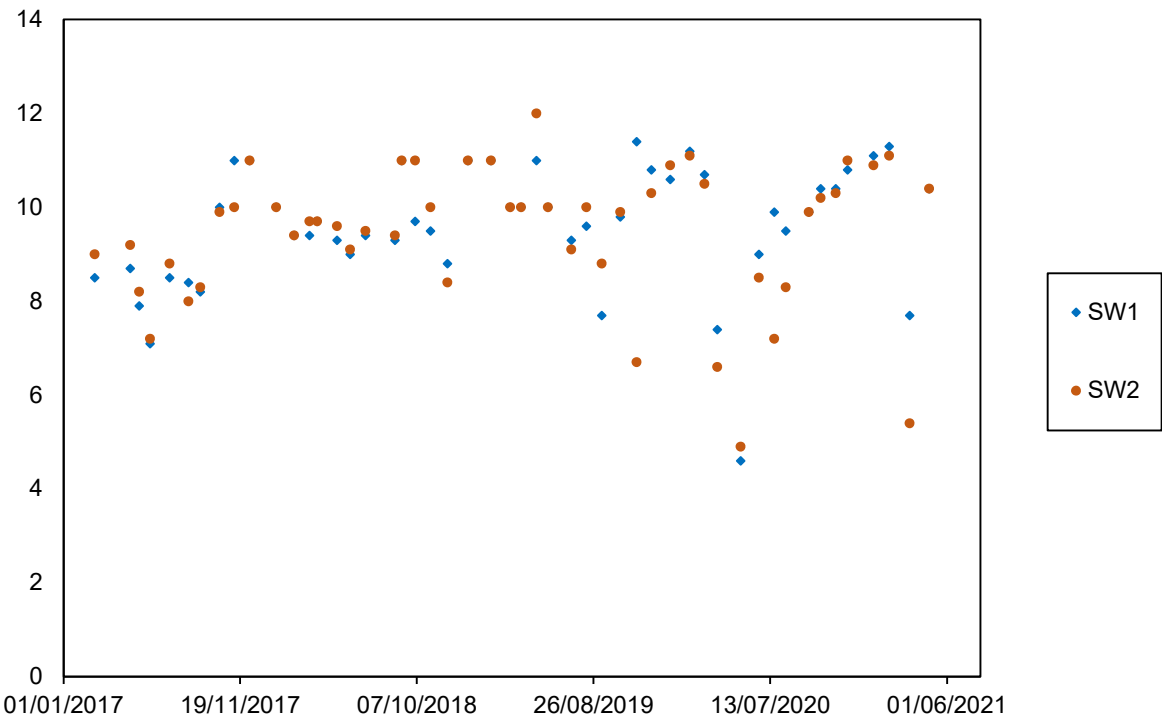
Note: Y-axis cropped to remove anomalous outliers of 360 mg/l in SW1 and 660 mg/l in SW2, both on 27/02/2017

C3 – Surface Water Suspended Solids (mg/l)

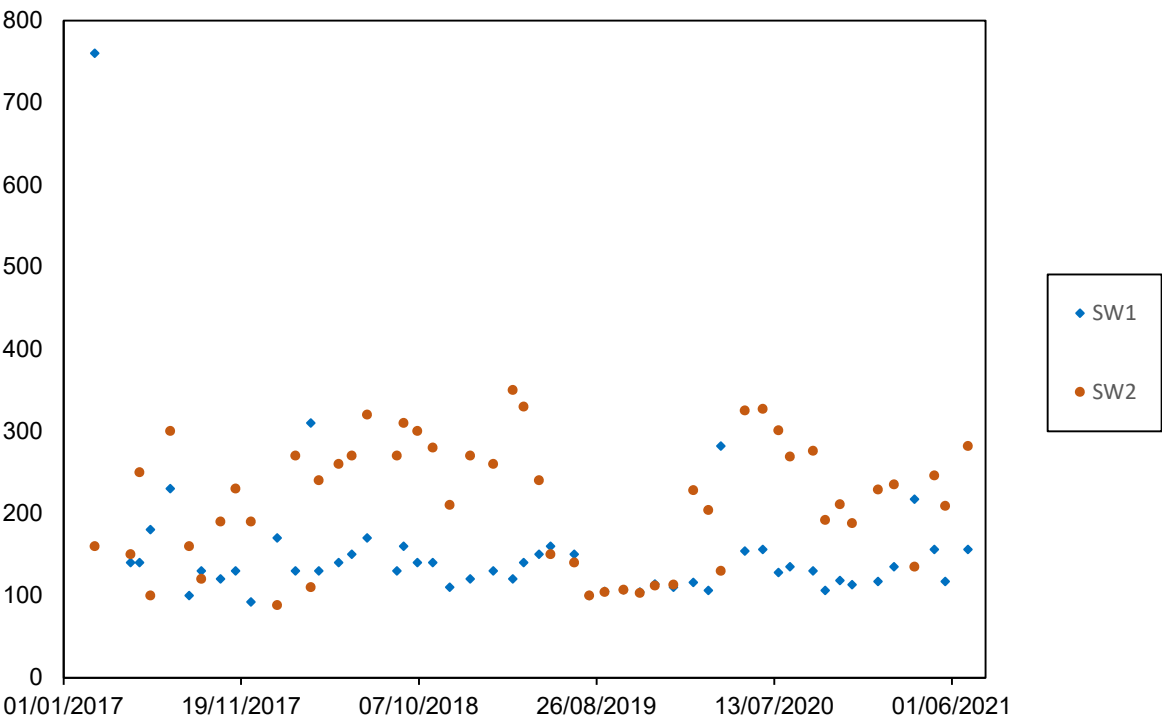


Note: y-axis cropped to remove anomalous outlier of 2,200 mg/l in SW1 on 26/03/2018

C4 – Surface Water Dissolved Oxygen (mg/l)



C5 - Surface Water Electrical Conductivity (µS/cm)





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Email: info@byrnelooby.com



Environment
Agency

Permit

The Environmental Permitting (England & Wales) Regulations 2010

W. Maher & Sons Limited

Ashton Old Road Recycling Depot
Ashton old Road
Manchester
M11 2XX

Permit number

EPR/GB3930AM

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit

Permit number
EPR/GB3930AM

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

W. Maher & Sons Limited ("the operator"),

whose registered office is

Soapstone Way
Irlam
Manchester
M44 6RA

company registration number 01178587

to operate waste operations described in standard rules SR2010No12 at
Ashton Old Road Recycling Depot
Ashton Old Road
Manchester
M11 2XX

to the extent authorised by and subject to the conditions of this permit.

Under regulation 27(2) of the Regulations, standard rules SR2010No12 are conditions of this permit.

Name	Date
Katie Sanders	11/05/2012

Authorised on behalf of the Environment Agency

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

NRS Meriden Aggregates Ltd
Cornets End Recycling Facility
Cornets End Lane
Meriden
Solihull
CV7 7LH

Variation application number

EPR/HB3802HF/V003

Permit number

EPR/HB3802HF

Cornets End Recycling Facility

Permit number EPR/HB3802HF

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

This variation is to:

- Add a treatment activity to the waste operation comprising washing of non-hazardous waste;
- Add non-hazardous waste codes to the waste operation;
- Remove the site-specific limits specified in schedule 4 of the permit;
- Add an installation activity for the treatment of hazardous waste by physico-chemical treatment including hand-picking, screening and washing;
- Increase the permitted boundary; and
- Consolidate and update the permit to modern conditions.

The site is located approximately 1.3km south-west of Meriden, Solihull at the National Grid reference SP 22909 81064.. It is situated in a predominantly rural location in an area that was previously used for mineral extraction and processing. The site is bounded to the south and east by agricultural land and by mineral working and processing and other waste management facilities on the other boundaries.

Installation activities

The treatment and storage of hazardous waste is an installation in accordance with schedule 1, sections 5.3 Part A(1)(a)(vi) and 5.6 Part A(1)(a) of the Environmental Permitting (England & Wales) Regulations 2016. Hazardous wastes accepted at the are treated by screening, hand-picking of asbestos and/or by washing. Any hazardous wastes accepted that cannot be treated will be transferred off site. The permitted activities are as follows:

Hazardous waste screening

Wastes will be screened into different size fractions. Each fraction will be tested to determine if the waste is hazardous or non-hazardous. Waste that is hazardous will be further treated by washing and the non-hazardous wastes will be crushed, screened and/or washed to produce aggregate under the waste permit.

Asbestos picking

Hazardous waste containing bonded asbestos will be hand-picked from an enclosed conveyor with water spray to prevent fibre releases. The pieces of removed asbestos will be double bagged and stored in a locked container prior to removal from the site for disposal. The remaining waste will be tested for fibre content and treated as non-hazardous waste where testing indicates fibre content is below the threshold. If the asbestos containing waste has other hazardous properties, the waste will first be treated by hand-picking of asbestos and then further treated by screening and/or washing where asbestos fibres are not present above the threshold. If the content of asbestos fibres is above 0.1% following hand-picking, the waste will be disposed of at a suitable landfill.

Hazardous waste washing

Hazardous waste that does not require screening, the hazardous fractions following screening and wastes with asbestos removed will be washed to separate hazardous fractions. Water used for the washing will be

recirculated following treatment and filtered to remove the fines which are then pressed. The pressed filter cake will be tested and then disposed of at a suitable facility. The washed fractions will be tested and if they are non-hazardous, the wastes will be crushed and screened to produce aggregate.

Waste operation activities

Non-hazardous wastes are accepted for treatment by hand-picking, separation, screening, washing and blending to produce aggregate. Washing takes place in the same plant as that for hazardous waste as a batch process so that hazardous and non-hazardous wastes are not mixed.

All hazardous waste treatment and storage will be carried out on an impermeable surface with a sealed drainage system. The area is enclosed by a kerb. The asbestos picking area will be enclosed and the waste will be sprayed with water to prevent release of fibres.

Non-hazardous waste is treated and stored in the same area with hazardous waste and will be kept separate from the hazardous wastes all through the treatment and storage processes.

Drainage from the northern part of the site where waste is processed will be collected in an interceptor. The drainage water will be transferred to the water treatment plant where it will be treated and re-used in the wash plant. Any excess water in the reservoir will be tankered off-site for disposal. Surface water run-off from the southern part of the site drains to a settlement pond via an oil interceptor and silt trap prior to discharges to an un-named stream.

There are no point source emissions to air. Dust is managed by spraying stockpiles with water in dry conditions to prevent wind-blown dust.

There is a local wildlife site and the River Blythe Site of Special Scientific Interest within 2km of the site.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Original License EAWML 42811 determined	16/12/1998	
Modification notice determined	04/12/2003	Area initiated variation of permit.
Permit determined EPR/BP3996LK	19/01/2009	Variation to increase permitted site boundary. (EPR permit number issued)
Application EPR/HB3008GX/T001 (full transfer of permit EPR/BP3996LK)	Duly made 22/01/2019	Application to transfer the permit in full to N.R.S Waste Management Services Limited.
Transfer determined	07/02/2019	Full transfer of permit complete to N.R.S Waste Management Services Limited.
Transfer determined	06/08/2020	Full transfer of permit complete to NRS Meriden Aggregates Ltd.
Application EPR/HB3802HF/V002 (variation)	Duly made 03/03/2021	Application to vary the permit
Additional information received	13/06/2021	Waste Acceptance Procedure (also containing revised list of waste codes)
Variation determined EPR/HB3802HF/V002	13/08/2021	Notice of variation issued

Status log of the permit		
Description	Date	Comments
Application EPR/HB3802HF/V003 (variation and consolidation)	Duly made 03/08/2022	Application to add installation activity for treatment of hazardous waste, increase the permitted boundary, add non-hazardous waste washing to waste operation and update the permit to modern conditions.
Additional information	10/10/2022	Response to schedule 5 notice regarding treatment activities, wastes, dust and noise management plans and site layout and drainage plans.
Additional information	11/11/2022	Clarification of management procedures for site drainage, wash water and waste types.
Additional information	10/01/2023	Revised Process Flow Diagram
Variation determined and consolidation issued EPR/HB3802HF/V003 (Installation billing ref: LP3904MX; Waste billing ref: EAWML 42811)	10/01/2023	Varied and consolidated permit issued in modern format

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/HB3802HF

Issued to

NRS Meriden Aggregates Ltd ("the operator")

whose registered office is

NRS House Site 7

Meriden Park

Cornets End Lane

Meriden

Solihull

CV7 7LH

company registration number 11911715

to operate regulated facilities at

Cornets End Recycling Facility

Cornets End Lane

Meriden

Solihull

CV7 7LH

to the extent set out in the schedules.

The notice shall take effect from 10/01/2023.

Name	Date
Peter Maksymiw	10/01/2023

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/HB3802HF

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/HB3802HF/V003 authorising,

NRS Meriden Aggregates Ltd ("the operator"),

whose registered office is

NRS House Site 7

Meriden Park

Cornets End Lane

Meriden

Solihull

CV7 7LH

company registration number 11911715

to operate an installation and waste operations at

Cornets End Recycling Facility

Cornets End Lane

Meriden

Solihull

CV7 7LH

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Peter Maksymiw	10/01/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

- 1.2.1 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7, the operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7, the operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7, waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2, table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

Hazardous waste storage and treatment

- 2.3.7 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1, table S1.1 and appropriate measures are taken.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1, table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1, table S1.4 shall not commence until the measures specified in that table have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.1.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7, periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in table S3.1;
 - (b) ambient air monitoring specified in table S3.2; and
 - (c) process monitoring specified in table S3.3.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
 - (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7, a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production/treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4, table S4.1 and using the forms specified in schedule 4, table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
AR1	S5.3 A1(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.	Asbestos removal R5 Recycling/reclamation of other inorganic materials	<p>From receipt of waste through to storage of treated waste.</p> <p>Treatment in a dedicated enclosed and abated picking line.</p> <p>Asbestos removed from the waste shall:</p> <ul style="list-style-type: none"> • Be double-bagged and stored in a sealed locked container. • not be transferred between different bulk containers, which shall be locked when not being loaded and shall not be stacked. <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system.</p> <p>Hazardous waste types and quantities as specified in Table S2.2.</p>
AR2	S5.3 A1(a)(vi) Recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.	Screening of hazardous waste R5 Recycling/reclamation of other inorganic materials	<p>From receipt of waste, including treated waste from Activity AR1, through to storage of treated waste in different size fractions.</p> <p>Treatment shall take place on an impermeable surface with a sealed drainage system as shown on indicative Site Layout Plan reference 21/001c 003 V2.</p> <p>Waste containing asbestos shall not be screened.</p> <p>Hazardous waste types and quantities as specified in Table S2.3.</p>
AR3	S5.3 A1(a)(vi) Recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.	Soil washing of hazardous waste R5 Recycling/reclamation of other inorganic materials	<p>From receipt of waste, including from Activity AR2 through to storage of treated waste, including treatment of water from the wash plant and from the interceptor and return of clean water to the wash plant.</p> <p>Storage of filter cake prior to disposal off-site.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system.</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			Hazardous waste types and quantities as specified in Table S2.3.
AR4	S5.6 A1(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes.	R13 Storage of waste pending any of the operations R1 to R12	<p>From receipt of waste through to submission for treatment.</p> <p>All storage shall take place on an impermeable surface with a sealed drainage system as shown on indicative Site Layout Plan reference 21/001c 003 V2.</p> <p>Asbestos shall be stored in a locked container.</p> <p>Hazardous waste shall not be stored for more than 6 months.</p> <p>Hazardous waste types and quantities as specified in Tables S2.2 and S2.3.</p> <p>The combined total of non-hazardous waste and hazardous waste stored shall not exceed 80,000 tonnes.</p>
Directly Associated Activity			
AR5		Surface water management	<p>From collection and storage of site run-off from the northern area of the site in an interceptor, to treatment in the water treatment plant for use in the wash plant (activity AR3) and/or removal from the site.</p> <p>From collection of uncontaminated site run-off from the southern area to storage in the settlement pond via an oil interceptor and silt trap, to discharge to the stream at emission point 1 as shown on indicative Site Layout Plan reference 21/001c 003 V2.</p> <p>Drainage infrastructure is as shown on indicative Drainage Plan Drawing number 21/001f 001.</p>
AR6	-	Storage of raw materials including fuel	From the receipt of raw materials and fuel through to their use within the facility.
AR7	-	Storage of hazardous waste prior to disposal off-site. D15 Storage of waste pending any of the operations D1 to D14	<p>Storage of treated waste.</p> <p>No more than 10 m³ of asbestos shall be stored at any one time.</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
Activity reference	Description of activities for waste operations		Limits of activities
AR8	R5: Recycling/reclamation of other inorganic compounds R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)		Physical treatment including hand-picking, screening, crushing and blending for the purpose of recovery. Treatment of non-hazardous waste in a soil washing plant. Non-hazardous waste types as specified in Table S2.4. The combined total of non-hazardous waste and hazardous waste stored shall not exceed 80,000 tonnes.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/HB3802HF/V003	<ul style="list-style-type: none"> Response to question 3a of the Part C3 application form. Hazardous Waste Treatment Permit Boundary Plan, reference 21/011 004. 	27/07/2022
	<ul style="list-style-type: none"> BAT Assessment Report for Hazardous Waste Treatment Operations. Waste Pre-acceptance Procedure. Waste Rejection Procedure. Waste Storage and Handling Procedure. 	01/08/2022
Response to schedule 5 notice dated 08/09/2022	<ul style="list-style-type: none"> Indicative Site Layout Plan, reference 21/011c 003 V2. Indicative Drainage Plan, drawing number 21/001f 001. Hazardous Waste Acceptance Procedure. Noise Management Plan. 	10/10/2022
Response to request for information dated 27/10/2022	<ul style="list-style-type: none"> Technical summary, excluding paragraph 5.17. Water Treatment Process Flow Diagram. 	11/11/2022
Additional information	<ul style="list-style-type: none"> Hazardous Waste Treatment Process Flow. 	10/01/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The operator shall submit in writing to the Environment Agency for approval a report that shall include, but not be limited to, the following: <ul style="list-style-type: none"> The results of testing of the surface water drainage from the northern area of the site from a minimum of three samples taken on at least three separate occasions to determine if the water is hazardous. Proposals to prevent the mixing of hazardous surface water drainage with non-hazardous wash water in the water treatment plant, where the site drainage is determined to be hazardous, 	30/09/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>including alternative arrangements for the treatment or removal of surface water drainage.</p> <p>Where the site drainage is determined to be hazardous, it shall not be mixed with the non-hazardous wash water in the water treatment plant and alternative arrangements for managing surface drainage shall be submitted.</p>	

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
PO1	Commencement of activities AR1 to AR6 as detailed in table S1.1	The operator shall submit plans showing the final layout of the site infrastructure and drainage (as-built plans) to replace Indicative Site Layout Plan, reference 21/011c 003 V2 and Indicative Drainage Plan, drawing number 21/001f 001.
PO2	Commencement of activity AR1 as detailed in table S1.1	<p>The operator shall submit a revised Dust Management Plan in writing to the Environment Agency for approval that includes proposals for the monitoring of asbestos fibres in air at the site boundary. The Plan shall be updated to include:</p> <ul style="list-style-type: none"> • A drawing showing the location of the proposed monitoring points which shall be up and down wind of the treatment area; and • A monitoring methodology to the standards and frequency specified in schedule 3, table S3.2.
PO3	Acceptance of utility waste from emergency repairs following withdrawal of RPS 211	<p>The operator shall submit proposals in writing to the Environment Agency for approval for the handling and storage of utility waste that is assumed to be hazardous which is generated as a result of emergency repairs work by the utility companies. The proposals shall include:</p> <ul style="list-style-type: none"> • Details of the storage of the waste so that it is isolated from other wastes accepted at the site, including the location of the area for isolated quarantine; • The maximum storage capacity and the maximum time the waste will be stored in the isolated quarantine; • Details of the sampling to be carried out to determine if the assumed hazardous waste is hazardous or non-hazardous.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
-	-

Table S2.2 Permitted waste types and quantities for Activity AR1 – Asbestos removal	
Maximum quantity	Total quantity of waste accepted per year under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year, of which waste accepted under activity AR1 shall not exceed 30,000 tonnes per year.
Exclusions	Wastes having any of the following characteristics shall not be accepted: Asbestos in unbound fibrous form (fibres must be <0.1% w/w)
Waste code	Description
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 06	insulation materials and asbestos-containing construction materials
17 06 01*	insulation materials containing asbestos – pieces/bonded asbestos only
17 06 05*	construction materials containing asbestos – pieces/bonded asbestos only

Table S2.3 Permitted waste types and quantities for Activities AR2, AR3 and AR4 – screening, washing and storage	
Maximum quantity	Total quantity of waste accepted under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year
Exclusions	HP1 Explosive Waste HP9 Infectious Waste HP12 Waste which will release acute toxic gas HP15 Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste.
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 05	drilling muds and other drilling wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
10	Wastes from thermal processes
10 09	wastes from casting of ferrous pieces
10 09 05*	casting cores and moulds which have not undergone pouring containing hazardous substances
10 09 07*	casting cores and moulds which have undergone pouring containing hazardous substances

Table S2.3 Permitted waste types and quantities for Activities AR2, AR3 and AR4 – screening, washing and storage	
Maximum quantity	Total quantity of waste accepted under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year
Exclusions	HP1 Explosive Waste HP9 Infectious Waste HP12 Waste which will release acute toxic gas HP15 Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste.
Waste code	Description
10 09 11*	other particulates containing hazardous substances
10 09 13*	waste binders containing hazardous substances
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 12*	solid wastes from gas treatment containing hazardous substances
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 03	bituminous mixtures, coal tar and tarred products
17 03 01*	bituminous mixtures containing coal tar
17 03 03*	coal tar and tarred products
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 05*	dredging spoil containing hazardous substances
17 05 07*	track ballast containing hazardous substances
17 06	insulation materials and asbestos-containing construction materials
17 06 03*	other insulation materials consisting of or containing hazardous substances
17 08	gypsum-based construction material
17 08 01*	gypsum-based construction materials contaminated with hazardous substances
17 09	other construction and demolition wastes
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

Table S2.3 Permitted waste types and quantities for Activities AR2, AR3 and AR4 – screening, washing and storage	
Maximum quantity	Total quantity of waste accepted under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year
Exclusions	HP1 Explosive Waste HP9 Infectious Waste HP12 Waste which will release acute toxic gas HP15 Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste.
Waste code	Description
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances – wastes from the treatment of construction and demolition waste only
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances

Table S2.4 Permitted waste types and quantities for Activity AR8	
Maximum quantity	Total quantity of waste accepted under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year
Exclusions	Wastes having any of the following characteristics shall not be accepted: <ul style="list-style-type: none"> • Hazardous wastes • Wastes in liquid form • Waste sludge • Biodegradable waste
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, DRESSING AND FURTHER TREATMENT OF MINERALS AND QUARRY
01 01	wastes from mineral extraction
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clay
10	WASTES FROM THERMAL PROCESSES
10 01	
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 09	Waste from casting of ferrous pieces
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 07
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)

Table S2.4 Permitted waste types and quantities for Activity AR8	
Maximum quantity	Total quantity of waste accepted under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year
Exclusions	Wastes having any of the following characteristics shall not be accepted: <ul style="list-style-type: none"> • Hazardous wastes • Wastes in liquid form • Waste sludge • Biodegradable waste
Waste code	Description
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 14	Waste concrete and concrete sludge – solid wastes only
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 07	glass packaging
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 05 03
17 02	wood, glass and plastic
17 02 02	glass – clean only
17 03	bituminous mixtures, coal tar and tarred products
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 08	gypsum-based construction material
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01
17 09	other construction and demolition wastes
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION / INDUSTRIAL WASTE
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	waste from desanding – washed sewage grit free from sewage and contamination only
19 12	Wastes from the mechanical treatment of wastes (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 05	glass – clean only
19 12 09	minerals (for example sand, stones)

Table S2.4 Permitted waste types and quantities for Activity AR8	
Maximum quantity	Total quantity of waste accepted under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year
Exclusions	Wastes having any of the following characteristics shall not be accepted: <ul style="list-style-type: none"> • Hazardous wastes • Wastes in liquid form • Waste sludge • Biodegradable waste
Waste code	Description
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20	MUNICIPAL WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES INCLUDING SEPERATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 02	glass – clean only
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Schedule 3 – Emissions and monitoring

Table S3.1 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Emission point 1 as shown on indicative Site Layout Plan reference 21/001c 003 V2	Uncontaminated surface water drainage from southern area	-	-	-	-	-

Table S3.2 Ambient air monitoring requirements					
Location or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Monitoring locations in accordance with PO2 in table S1.4	Asbestos Fibres	0.01 fibres/ml Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	Monthly during receipt, handling and movement of asbestos contaminated wastes	In line with M17 monitoring guidance	<ul style="list-style-type: none"> Pumped sampling 1m above ground level Flow rate = 8 litres/ minute Minimum sample volume = 480 litres Filter pore size = 0.8-1.2µm Asbestos fibre limit of detection = 0.001 fibres/ml

Table S3.3 Process monitoring requirements					
Monitoring Point Ref. /Description	Parameter	Limit	Monitoring Frequency	Monitoring Standard or Method	Other Specifications
Testing of treated hazardous wastes	Hazardous parameters	Determination of hazardous or non-hazardous	Following treatment	MCERTS Hand-held detector	Laboratory testing to validate on-site testing

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Point source emissions to water (other than sewer) Parameters as required by condition 3.5.1	Emission point 1	N/A	N/A
Ambient air monitoring Parameters as required by condition 3.5.1	Monitoring points are subject to the Pre-operational condition PO2	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2: Annual production/treatment	
Parameter	Units
Asbestos waste treated	tonnes
Hazardous waste soils treated	tonnes
Non-hazardous waste recovered	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	m ³
Energy usage	Annually	MWh
Total raw material used	Annually	tonnes

Table S4.4 Reporting forms		
Parameter	Reporting form	Form version number and date
Ambient air monitoring	Ambient Air Monitoring Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Process monitoring	Process Monitoring Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Water usage	Water Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Energy usage	Energy Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“disposal” means any of the operations provided for in Annex I to the Waste Framework Directive.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“hazardous property” has the meaning in Annex III of the Waste Framework Directive.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to the Waste Framework Directive.

“RPS 211” means Environment Agency Regulatory Position Statement Excavated waste from utilities installation and repair: RPS211

“waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels other than gas engines or gas turbines, 6% dry for solid fuels; and/or

- in relation to emissions from gas engines or gas turbines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 15% dry for liquid and gaseous fuels ; and/or

in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content “year” means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, tables S2.2 and S2.3, for those tables, they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘PCBs’ means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

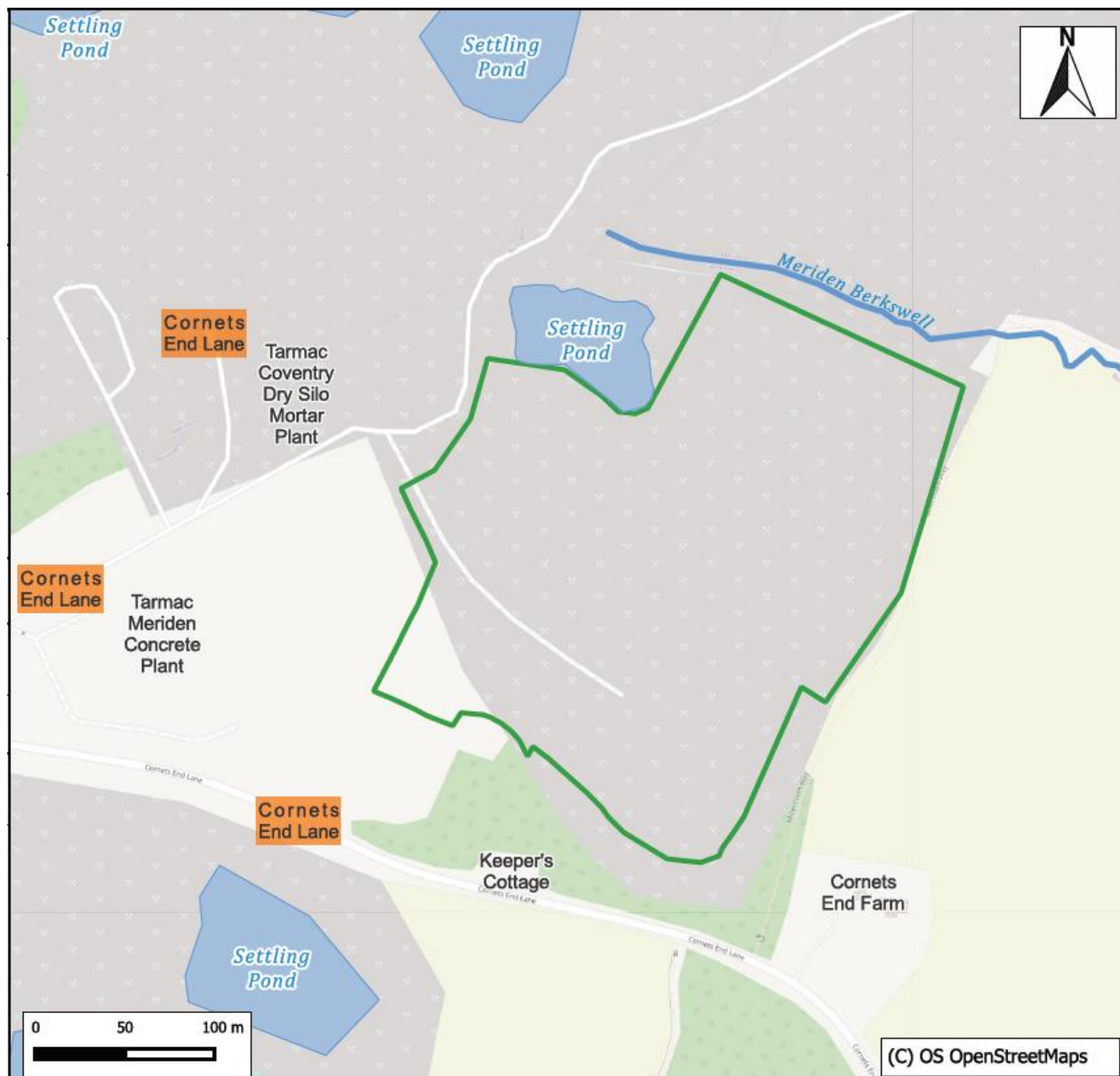
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term

Schedule 7 – Site plan



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END OF PERMIT

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Whitemoss Landfill Holdings Limited

Whitemoss Landfill
White Moss Road South
Skelmersdale
Lancashire
WN8 9TH

Variation application number

EPR/DP3034YR/V004

Permit number

EPR/DP3034YR

Whitemoss Landfill

Permit number EPR/DP3034YR

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

The permit has been varied at the request of the operator to reflect a change in Financial Provision. This has changed from a combination of a fill-secure account and bond, to a single bond. There has been no change to the expenditure plan, or any other part of the permit. This variation acts as a consolidation of all historical variations.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application BV1682IP (EPR/BV1682IP/A001)	Duly made 09/06/03	Application for a landfill.
Permit BV1682IP determined EPR/BV1682IP	12/11/04	Permit issued to J Routledge and Sons (Liverpool) Limited.
Variation application EPR/BV1682IP/V002 (HP3937SW)	15/08/05	
Variation determined EPR/BV1682IP	22/06/06	
Variation application EPR/BV1682IP/V003 (VP3835MR)	21/12/06	
EPR/BV1682IP	18/05/07	
Full Transfer application	26/01/06	
Full Transfer determined EPR/DP3639LM/T001 (DP3639LM)	18/09/08	Permit issued to Whitemoss Landfill Limited.
Variation application EPR/DP3639LM/V002	12/01/09	

(KP3532GN)		
Variation determined EPR/DP3639LM	12/02/09	
Variation application EPR/DP3639LM/V003	02/12/10	
Variation determined EPR/DP3639LM (Billing ref: NP3532HA)	10/12/10	
Environment Agency Landfill Sector Review 2014 Permit reviewed Variation determined EPR/DP3639LM/V004 Permit EPR/DP3639LM (Billing ref: WP3532ZY)	13/10/14	Varied and consolidated permit issued in modern condition format.
Variation application EPR/DP3639LM/V005	Duly made 23/09/14	Variation to extend landfill boundary to the west (western landfill area).
Variation determined EPR/DP3639LM/V005	12/09/16	Variation to extend the landfill.
Variation determined EPR/DP3639LM/V006	13/04/17	Environment Agency Initiated Variation to amend Pre-operational Measure 3 in Table S1.4, add Improvement Condition 4 in Table S1.3 and to correct typing errors, update monitoring points and update the drawing reference, as necessary, in Table S3.1, Table S3.3, Table S3.4, Table S3.5, Table S3.7 and Table S3.10 to the current situation.
Full Transfer application EPR/DP3034YR/T001	Duly made 25/08/15	
Full Transfer determined EPR/DP3034YR/T001 (Billing Ref: DP3034YR)	16/05/18	Permit issued to Whitemoss Landfill Holdings Limited.
Variation application EPR/DP3034YR/V002	Duly made 13/11/18	Variation to add EWC codes for restoration and inert daily cover.
Additional information received	13/11/18	Waste acceptance procedures for restoration.
Variation determined EPR/DP3034YR/V002 PAS Ref: WP3530QK	18/12/18	Varied permit issued.
Notified of change of Company Name and/or Registered office and/or Site Name	08/01/19	Registered changed to 210 Pentonville Road, London, England, N1 9JY
Variation issued EPR/DP3034YR/V003	15/01/19	Varied permit issued to Whitemoss Landfill Limited
Variation application EPR/DP3034YR/V004	Duly Made 21/05/19	Consolidation and variation to alter financial provision from a combination of a fill secure account and bond, to a single bond without changing the expenditure plan.
Variation issued EPR/DP3034YR/V004	05/12/19	

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
Whitemoss Landfill Limited	EPR/TP3531GY	31/08/2010

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/DP3034YR

Issued to

Whitemoss Landfill Holdings Limited (“the operator”)

whose registered office is

210 Pentonville Road

London

Islington

N1 9JY

company registration number [09256086]

to operate a regulated facility at

Whitemoss Landfill

White Moss Road South

Skelmersdale

Lancashire

WN8 9TH

to the extent set out in the schedules.

The notice shall take effect from 29/11/2019

Name	Date
Dominiqua Drakeford-Allen	05/12/2019

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.



Environment
Agency

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Whitemoss Landfill Holdings Limited

Whitemoss Landfill
White Moss Road South
Skelmersdale
Lancashire
WN8 9TH

Permit number

EPR/DP3034YR

Whitemoss Landfill

Permit number EPR/DP3034YR

Introductory note

This introductory note does not form a part of the notice.

The main features of the permit are as follows:

The site which is classified as a landfill for hazardous waste is located to the south of the M58 motorway which separated Whitemoss Landfill from the outskirts of Skelmersdale, Lancashire. To the north of the site beyond the motorway are several industrial premises and some residential areas (within 500m of the site boundary). Whilst adjacent to the site in the south are open fields and agricultural land. There is a farm just above the northern boundary of the western landfill area and there is a public footpath immediately adjacent to the southern boundary of the site.

This variation relates to the alteration of financial provision, from a combination of a fill secure account and bond, to a single bond without changing the expenditure plan. A consolidation has also been incorporated.

The site also has a leachate treatment plant and a landfill gas flare.

The main emissions from the site are emissions to surface water, and emissions of treated leachate and landfill gas. There is also the potential for emissions of dust, noise and vibration, and odour – however the operator has proposed measures to mitigate the effects from these emissions.

Status log of the permit		
Description	Date	Comments
Application BV1682IP (EPR/BV1682IP/A001)	Duly made 09/06/03	Application for a landfill.
Permit BV1682IP determined EPR/BV1682IP	12/11/04	Permit issued to J Routledge and Sons (Liverpool) Limited.
Variation application EPR/BV1682IP/V002 (HP3937SW)	15/08/05	
Variation determined EPR/BV1682IP	22/06/06	
Variation application EPR/BV1682IP/V003 (VP3835MR)	21/12/06	
EPR/BV1682IP	18/05/07	
Full Transfer application	26/01/06	
Full Transfer determined EPR/DP3639LM/T001 (DP3639LM)	18/09/08	Permit issued to Whitemoss Landfill Limited.

Status log of the permit		
Description	Date	Comments
Variation application EPR/DP3639LM/V002 (KP3532GN)	12/01/09	
Variation determined EPR/DP3639LM	12/02/09	
Variation application EPR/DP3639LM/V003	02/12/10	
Variation determined EPR/DP3639LM (Billing ref: NP3532HA)	10/12/10	
Environment Agency Landfill Sector Review 2014 Permit reviewed Variation determined EPR/DP3639LM/V004 Permit EPR/DP3639LM (Billing ref: WP3532ZY)	13/10/14	Varied and consolidated permit issued in modern condition format.
Variation application EPR/DP3639LM/V005	Duly made 23/09/14	Variation to extend landfill boundary to the west (western landfill area).
Variation determined EPR/DP3639LM/V005	12/09/16	Variation to extend the landfill.
Variation determined EPR/DP3639LM/V006	13/04/17	Environment Agency Initiated Variation to amend Pre-operational Measure 3 in Table S1.4, add Improvement Condition 4 in Table S1.3 and to correct typing errors, update monitoring points and update the drawing reference, as necessary, in Table S3.1, Table S3.3, Table S3.4, Table S3.5, Table S3.7 and Table S3.10 to the current situation.
Full Transfer application EPR/DP3034YR/T001	Duly made 25/08/15	
Full Transfer determined EPR/DP3034YR/T001 (Billing Ref: DP3034YR)	16/05/18	Permit issued to Whitemoss Landfill Holdings Limited.
Variation application EPR/DP3034YR/V002	Duly made 13/11/18	Variation to add EWC codes for restoration and inert daily cover.
Additional information received	13/11/18	Waste acceptance procedures for restoration.
Variation determined EPR/DP3034YR/V002 PAS Ref: WP3530QK	18/12/18	Varied permit issued.
Notified of change of Company Name and/or Registered office and/or Site Name	08/01/19	Registered changed to 210 Pentonville Road, London, England, N1 9JY
Variation issued EPR/DP3034YR/V003	15/01/19	Varied permit issued to Whitemoss Landfill Limited
Variation application	Duly Made	Consolidation and variation to alter financial

Status log of the permit		
Description	Date	Comments
EPR/DP3034YR/V004	21/05/19	provision from a combination of a fill secure account and bond, to a single bond without changing the expenditure plan.
Variation issued EPR/DP3034YR/V004	05/12/19	

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
Whitemoss Landfill Limited	EPR/TP3531GY	31/08/2010

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/DP3034YR

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

Whitemoss Landfill Holdings Limited (“the operator”),

whose registered office is

**210 Pentonville Road
London
Islington
N1 9JY**

company registration number 09256086

to operate an installation at

**Whitemoss Landfill
White Moss Road South
Skelmersdale
Lancashire
WN8 9TH**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Dominiqua Drakeford-Allen	05/12/2019

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated **29/11/19** shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
 - (b) the costs of the financial provision required by condition 1.2.1; and
 - (c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) Review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) Implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

- 1.4.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

- (d) take any further appropriate measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1 The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every four years whether changes to those measures should be made; and
- (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1, table S1.1 (the “activities”).

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1, table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Landfill Engineering

2.5.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

- 2.5.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the operator has submitted a cell layout drawing and the Environment Agency has confirmed that it is satisfied with the cell layout drawing.
- 2.5.3 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
 - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.5.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.5.5 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.5.6 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
 - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.5.7 The operator shall submit a CQA Validation Report within four weeks of the completion of the construction of the relevant landfill infrastructure, or other time period agreed in writing with the Environment Agency.
- 2.5.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.5.5 and 2.5.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.
- 2.5.9 For the purposes of conditions 2.5.1, 2.5.2, 2.5.4 and 2.5.5, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.
- 2.5.10 Where the Environment Agency has required further information under condition 2.5.9(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

2.6 Waste acceptance

- 2.6.1 Wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, table S2.1; and
 - (b) they are hazardous waste or inert waste for cover (table S2.2); and
 - (c) they are not liquid waste (including waste waters but excluding sludge; and
 - (d) they are not waste which in the conditions of landfill is explosive, corrosive, oxidising, highly flammable or flammable; and

- (e) they are not hospital and other clinical infectious wastes from medical or veterinary establishments; and
- (f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown; and
- (g) all the relevant waste acceptance procedures have been completed; and
- (h) they fulfil the relevant waste acceptance criteria; and
- (i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria; and
- (j) they are wastes which have been treated, except for where treatment would not reduce its quantity or the hazards which it poses to human health or the environment,
- (k) They fulfil the relevant waste acceptance criteria, except that the leaching limits set out in schedule 2, table S2.5 shall apply to the wastes listed in schedule 2, table S2.4

2.6.2 Wastes shall only be accepted for restoration where:

- (a) they are listed in schedule 2, table S2.3; and
- (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.

2.6.3 For the following activities referenced in schedule 1, table S1.1 (A1) The operator shall:

- (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and
- (b) be satisfied that the waste conforms to the requirements of condition 2.6.1.

2.6.4 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.6.5 For the following activities referenced in schedule 1, table S1.1 (A1) The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.6.6 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing ESID4 dated 16/05/2014.

2.6.7 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1, table S1.4.

2.6.8 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.6.9 The operator shall maintain and implement a system to record the disposal location of any hazardous waste.

2.7 Leachate levels

2.7.1 The limits for the level of leachate listed in schedule 3, table S3.1 shall not be exceeded.

2.8 Closure and aftercare

2.8.1 The operator shall maintain a closure and aftercare management plan.

2.9 Landfill gas management

- 2.9.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:
- (a) collect landfill gas; and
 - (b) control the migration of landfill gas.
- 2.9.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.
- 2.9.3 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a revised landfill gas management plan;
 - (b) implement the revised landfill gas management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 The limits in schedule 3 shall not be exceeded.
- 3.1.2 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3, tables S3.2, S3.3 and S3.6.
- 3.1.3 The limits given in schedule 3, table S3.2 shall not be exceeded, save that compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.
- 3.1.4 The operator shall prevent the input of any hazardous substances from the activities into groundwater.
- 3.1.5 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:
- (a) between nine and six months prior to the fourth anniversary of the granting of the permit; and
 - (b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.
- 3.1.6 For the following activities referenced in schedule 1, table S1.1 (A2), periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:

- (a) Leachate specified in tables S3.1 and S3.11;
- (b) Point source emissions specified in tables S3.2, S3.3 and S3.6;
- (c) Groundwater specified in tables S3.4 and S3.9;
- (d) Landfill gas specified in tables S3.5, S3.8 and S3.10;
- (e) Surface water specified in table S3.12; and
- (f) Particulate matter specified in table S3.7.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

- 3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
- (a) annually; and
 - (b) prior to the disposal of waste in any new cell or new development area of the landfill; and
 - (c) following closure of the landfill or part of the landfill.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) the results of groundwater monitoring;
 - (ii) sub-surface landfill gas monitoring;
 - (iii) leachate levels, quality and quantities;
 - (iv) landfill gas generation and collection;
 - (v) waste types and quantities;
 - (vi) the location of hazardous waste deposits; and
 - (vii) the specification and as built drawings of the basal, sidewall and capping engineering systems.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;
- (b) the energy consumed at the site, reported in the format set out in schedule 4 table S4.3;
- (c) the annual production/treatment set out in schedule 4, table S4.2;
- (d) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;
- (e) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

- (f) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
 - (g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
 - (h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of existing and any new leachate and landfill gas extraction and monitoring points; and
 - (i) A review detailing an alternative disposal or treatment options considered for the waste streams specified in Schedule 2, table S2.4.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4, table S4.1;
 - (b) using the forms specified in schedule 4, table S4.4 or other reporting format as agreed in writing with the Environment Agency; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.5 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency;
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident; and
 - (iii) take the measures necessary to prevent further possible incidents or accidents.
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency; and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time.
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.4 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	D5 – Specially engineered landfill; R5 – the recycling or reclamation of inorganic material	Section 5.2 Part A(1)(a), The disposal of waste in a landfill.	Landfill for hazardous waste and landfill restoration	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
A2	D8 – Biological treatment of waste	Section 5.2 Part A(1)(a)(i), Biological treatment of non-hazardous waste	Treatment of leachate in a facility with a capacity of >50 tonnes/day	Leachate arising from the landfill
Directly Associated Activities				
A3	N/A		Temporary storage of waste (leachate)	Leachate arising from the landfill
A4	N/A		Flaring of landfill gas for disposal in an appliance	Landfill gas arising from the landfill
A5	D6 – release to water body except seas/ oceans		Discharges of site drainage from the landfill	From surface water management system to point of entry to controlled waters.
A6	N/A		Discharge of treated leachate from the Leachate Treatment Plant	From the Leachate Treatment Plant to the point that the pipework ceases to be on land under the control of the operator.
A7	N/A		Storage of fuel for operation of plant and equipment	Fuel storage tank.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Information submitted	Management System, A6 Waste Acceptance Procedures for restoration	15/11/13
Variation application to include western landfill area	Form C2 response to question 5 (Supporting information) and 6 (Environmental risk assessment). Form C3 responses to questions 2 (Emissions to air, water and land), 3 (Operating techniques), 4 (Monitoring), Appendix 5 (Specific questions for hazardous and non-hazardous waste recovery and disposal sector) and Appendix 7 (Specific questions for the landfill sector). Additional information (NDM responses) received on 17/07.14, 15/08/14 and 23/09/14 – all parts.	23/09/14
Additional information	Response to RFI from Operator in relation to Priority Habitats	06/05/15
Additional information	Schedule 5 response part 1 re HRA, LFGRA, SRA and Landfill operations	08/06/15
Additional information	Schedule 5 response part 2 re H1 risk assessment Including report WL/WL/AW/5504/01/DMP PARTICULATE MATTER AND ASBESTOS MANAGEMENT, MONITORING AND ACTION PLAN FOR THE WESTERN LANDFILL AREA AT WHITEMOSS LANDFILL SITE, LANCASHIRE	12/06/15
Additional information	Letter from Applicant providing second addendum of HRA	23/07/15
Additional information	Schedule 5 Notice follow up response in relation to Q1 regarding the HRA	04/09/15
Additional information	Treated leachate discharge pipework information provided by email	06/10/15
Additional information	Whitemoss landfill Schedule 5 Notice follow up request in relation to Q8 particulate matter modelling	12/10/15
Additional information	Response to query regarding Whitemoss particulate matter modelling in relation to size of operational areas	26/10/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
4	The operator shall submit a written report to the Environment Agency for approval that includes an assessment of a year's worth of monitoring data from the gas monitoring boreholes from which background and compliance levels for methane and carbon dioxide for boreholes E56, E56A, E57, E58, E60, E60A, E61, E61A, E62A, E63A and E64A, referenced in Table S3.5, shall be derived utilising a statistical approach.	31/3/2020
2c	The operator shall submit a report to the Environment Agency in writing which proposes groundwater compliance limits for arsenic, benzene, cadmium, Ammoniacal nitrogen, chloride phenols, and zinc to be applied to the groundwater boreholes E60 and E62, which are down hydraulic gradient of the leachate treatment plant and lagoon. The report shall be based on the most up to date monitoring data. The	31/12/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	operator shall have obtained the Environment Agency's written approval to the report.	
3	The HRA review will also review the current cell design and specification to ensure it is sufficient to provide the necessary protection of groundwater in the long term or provide proposals for additional containment – this can be included in the Construction Quality Assurance (CQA) Plan for future cells.	31/12/2020

Table S1.4 Annual waste input limits	
Category	Limit Tonnes/ Year
Hazardous waste	150,000
Inert Waste for cover	25,000
Waste for restoration	35,000

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 03	wastes from physical and chemical processing of metalliferous minerals
01 03 05*	other tailings containing hazardous substances
01 03 07*	other wastes containing hazardous substances from physical and chemical processing of metalliferous minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 07*	wastes containing hazardous substances from physical and chemical processing of non-metalliferous minerals
01 05	drilling muds and other drilling wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 08*	agrochemical waste containing hazardous substances
03 02	wastes from wood preservation
03 02 05*	other wood preservatives containing hazardous substances
04	Wastes from the leather, fur and textile industries
04 01	wastes from the leather and fur industry
04 01 03*	degreasing wastes containing solvents without a liquid phase
04 02	wastes from the textile industry
04 02 14*	wastes from finishing containing organic solvents

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
04 02 16*	dyestuffs and pigments containing hazardous substances
04 02 19*	sludges from on-site effluent treatment containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 02*	desalter sludges
05 01 03*	tank bottom sludges
05 01 04*	acid alkyl sludges
05 01 05*	oil spills
05 01 06*	oily sludges from maintenance operations of the plant or equipment
05 01 07*	acid tars
05 01 08*	other tars
05 01 09*	sludges from on-site effluent treatment containing hazardous substances
05 01 15*	spent filter clays
05 06	wastes from the pyrolytic treatment of coal
05 06 03*	other tars
05 07	wastes from natural gas purification and transportation
05 07 01*	wastes containing mercury
06	Wastes from inorganic chemical processes
06 03	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 11*	solid salts and solutions containing cyanides
06 03 13*	solid salts and solutions containing heavy metals
06 03 15*	metallic oxides containing heavy metals
06 04	metal-containing wastes other than those mentioned in 06 03
06 04 03*	wastes containing arsenic
06 04 04*	wastes containing mercury
06 04 05*	wastes containing other heavy metals
06 05	sludges from on-site effluent treatment
06 05 02*	sludges from on-site effluent treatment containing hazardous substances
06 07	wastes from the MFSU of halogens and halogen chemical processes
06 07 01*	wastes containing asbestos from electrolysis
06 07 02*	activated carbon from chlorine production
06 07 03*	barium sulphate sludge containing mercury
06 08	wastes from the MFSU of silicon and silicon derivatives
06 08 02*	waste containing hazardous chlorosilanes
06 09	wastes from the MFSU of phosphorous chemicals and phosphorous chemical processes
06 09 03*	calcium-based reaction wastes containing or contaminated with hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
06 10	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture
06 10 02*	wastes containing hazardous substances
06 13	wastes from inorganic chemical processes not otherwise specified
06 13 01*	inorganic plant protection products, wood-preserving agents and other biocides
06 13 04*	wastes from asbestos processing
06 13 05*	Soot
07	Wastes from organic chemical processes
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 08*	other still bottoms and reaction residues
07 01 09*	halogenated filter cakes and spent absorbents
07 01 10*	other filter cakes and spent absorbents
07 01 11*	sludges from on-site effluent treatment containing hazardous substances
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres
07 02 09*	halogenated filter cakes and spent absorbents
07 02 10*	other filter cakes and spent absorbents
07 02 11*	sludges from on-site effluent treatment containing hazardous substances
07 02 14*	wastes from additives containing hazardous substances
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 08*	other still bottoms and reaction residues
07 03 09*	halogenated filter cakes and spent absorbents
07 03 10*	other filter cakes and spent absorbents
07 03 11*	sludges from on-site effluent treatment containing hazardous substances
07 04	wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides
07 04 08*	other still bottoms and reaction residues
07 04 09*	halogenated filter cakes and spent absorbents
07 04 10*	other filter cakes and spent absorbents
07 04 11*	sludges from on-site effluent treatment containing hazardous substances
07 04 13*	solid wastes containing hazardous substances
07 05	wastes from the MFSU of pharmaceuticals
07 05 08*	other still bottoms and reaction residues
07 05 09*	halogenated filter cakes and spent absorbents
07 05 10*	other filter cakes and spent absorbents
07 05 11*	sludges from on-site effluent treatment containing hazardous substances
07 05 13*	solid wastes containing hazardous substances
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
07 06 08*	other still bottoms and reaction residues
07 06 09*	halogenated filter cakes and spent absorbents
07 06 10*	other filter cakes and spent absorbents
07 06 11*	sludges from on-site effluent treatment containing hazardous substances
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 08*	other still bottoms and reaction residues
07 07 09*	halogenated filter cakes and spent absorbents
07 07 10*	other filter cakes and spent absorbents
07 07 11*	sludges from on-site effluent treatment containing hazardous substances
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
08 01	wastes from MFSU and removal of paint and varnish
08 01 13*	sludges from paint or varnish containing organic solvents or other hazardous substances
08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances
08 01 17*	wastes from paint or varnish removal containing organic solvents or other hazardous substances
08 03	wastes from MFSU of printing inks
08 03 14*	ink sludges containing hazardous substances
08 03 17*	waste printing toner containing hazardous substances
08 04	wastes from MFSU of adhesives and sealants (including water proofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
08 04 11*	adhesive and sealant sludges containing organic solvents or other hazardous substances
08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other hazardous substances
08 05	wastes not otherwise specified in 08
08 05 01*	waste isocyanates
09	Wastes from the photographic industry
09 01	wastes from the photographic industry
09 01 11*	single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 04*	oil fly ash and boiler dust
10 01 13*	fly ash from emulsified hydrocarbons used as fuel
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing hazardous substances
10 01 16*	fly ash from co-incineration containing hazardous substances
10 01 18*	wastes from gas cleaning containing hazardous substances
10 01 20*	sludges from on-site effluent treatment containing hazardous substances
10 02	wastes from the iron and steel industry

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
10 02 07*	solid wastes from gas treatment containing hazardous substances
10 02 13*	sludges and filter cakes from gas treatment containing hazardous substances
10 03	wastes from aluminium thermal metallurgy
10 03 04*	primary production slags
10 03 08*	salt slags from secondary production
10 03 09*	black drosses from secondary production
10 03 15*	skimmings that are flammable or emit, upon contact with water, flammable gases in hazardous quantities
10 03 17*	tar-containing wastes from anode manufacture
10 03 19*	flue-gas dust containing hazardous substances
10 03 21*	other particulates and dust (including ball-mill dust) containing hazardous substances
10 03 23*	solid wastes from gas treatment containing hazardous substances
10 03 25*	sludges and filter cakes from gas treatment containing hazardous substances
10 03 29*	wastes from treatment of salt slags and black drosses containing hazardous substances
10 04	wastes from lead thermal metallurgy
10 04 01*	slags from primary and secondary production
10 04 02*	dross and skimmings from primary and secondary production
10 04 03*	calcium arsenate
10 04 04*	flue-gas dust
10 04 05*	other particulates and dust
10 04 06*	solid wastes from gas treatment
10 04 07*	sludges and filter cakes from gas treatment
10 05	wastes from zinc thermal metallurgy
10 05 03*	flue-gas dust
10 05 05*	solid waste from gas treatment
10 05 06*	sludges and filter cakes from gas treatment
10 06	wastes from copper thermal metallurgy
10 06 03*	flue-gas dust
10 06 06*	solid wastes from gas treatment
10 06 07*	sludges and filter cakes from gas treatment
10 08	wastes from other non-ferrous thermal metallurgy
10 08 08*	salt slag from primary and secondary production
10 08 12*	tar-containing wastes from anode manufacture
10 08 15*	flue-gas dust containing hazardous substances
10 08 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances
10 08 19*	wastes from cooling-water treatment containing oil
10 09	wastes from casting of ferrous pieces
10 09 05*	casting cores and moulds which have not undergone pouring containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
10 09 07*	casting cores and moulds which have undergone pouring containing hazardous substances
10 09 09*	flue-gas dust containing hazardous substances
10 09 11*	other particulates containing hazardous substances
10 09 13*	waste binders containing hazardous substances
10 09 15*	waste crack-indicating agent containing hazardous substances
10 10	wastes from casting of non-ferrous pieces
10 10 05*	casting cores and moulds which have not undergone pouring, containing hazardous substances
10 10 07*	casting cores and moulds which have undergone pouring, containing hazardous substances
10 10 09*	flue-gas dust containing hazardous substances
10 10 11*	other particulates containing hazardous substances
10 10 13*	waste binders containing hazardous substances
10 10 15*	waste crack-indicating agent containing hazardous substances
10 11	wastes from manufacture of glass and glass products
10 11 09*	waste preparation mixture before thermal processing, containing hazardous substances
10 11 11*	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)
10 11 13*	glass-polishing and -grinding sludge containing hazardous substances
10 11 15*	solid wastes from flue-gas treatment containing hazardous substances
10 11 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances
10 11 19*	solid wastes from on-site effluent treatment containing hazardous substances
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 09*	solid wastes from gas treatment containing hazardous substances
10 12 11*	wastes from glazing containing heavy metals
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 09*	wastes from asbestos-cement manufacture containing asbestos
10 13 12*	solid wastes from gas treatment containing hazardous substances
10 14	waste from crematoria
10 14 01*	waste from gas cleaning containing mercury
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)
11 01 09*	sludges and filter cakes containing hazardous substances
11 01 15*	eluate and sludges from membrane systems or ion exchange systems containing hazardous substances
11 01 16*	saturated or spent ion exchange resins

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
11 01 98*	other wastes containing hazardous substances
11 02	wastes from non-ferrous hydrometallurgical processes
11 02 05*	wastes from copper hydrometallurgical processes containing hazardous substances
11 03	sludges and solids from tempering processes
11 03 01*	wastes containing cyanide
11 03 02*	other wastes
11 05	wastes from hot galvanising processes
11 05 03*	solid wastes from gas treatment
11 05 04*	spent flux
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 12*	spent waxes and fats
12 01 14*	machining sludges containing hazardous substances
12 01 16*	waste blasting material containing hazardous substances
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil
12 01 20*	spent grinding bodies and grinding materials containing hazardous substances
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	Oil/water separator contents
13 05 01*	Solids from grit chambers and oil/water separators
13 05 02*	Sludges from oil/water separators
13 05 03*	Interceptors sludges
13 08	oil wastes not otherwise specified
13 08 01*	desalter sludges or emulsions
14	Waste organic solvents, refrigerants and propellants (except 07 and 08)
14 06	waste organic solvents, refrigerants and foam/aerosol propellants
14 06 04*	sludges or solid wastes containing halogenated solvents
14 06 05*	sludges or solid wastes containing other solvents
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 10*	packaging containing residues of or contaminated by hazardous substances
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
16	Wastes not otherwise specified in the list

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 08*	components containing mercury
16 01 11*	brake pads containing asbestos
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 02	wastes from electrical and electronic equipment
16 02 12*	discarded equipment containing free asbestos
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
16 02 15*	hazardous components removed from discarded equipment
16 03	off-specification batches and unused products
16 03 03*	inorganic wastes containing hazardous substances
16 05	gases in pressure containers and discarded chemicals
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08*	wastes containing oil
16 07 09*	wastes containing other hazardous substances
16 08	spent catalysts
16 08 02*	spent catalysts containing hazardous transition metals or hazardous transition metal compounds
16 08 05*	spent catalysts containing phosphoric acid
16 08 07*	spent catalysts contaminated with hazardous substances
16 11	waste linings and refractories
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances
16 11 03*	other linings and refractories from metallurgical processes containing hazardous substances
16 11 05*	linings and refractories from non-metallurgical processes containing hazardous substances
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 02	wood, glass and plastic
17 02 04*	glass, plastic and wood containing or contaminated with hazardous substances
17 03	bituminous mixtures, coal tar and tarred products
17 03 01*	bituminous mixtures containing coal tar

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
17 03 03*	coal tar and tarred products
17 04	metals (including their alloys)
17 04 09*	metal waste contaminated with hazardous substances
17 04 10*	cables containing oil, coal tar and other hazardous substances
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 05*	dredging spoil containing hazardous substances
17 05 07*	track ballast containing hazardous substances
17 06	insulation materials and asbestos-containing construction materials
17 06 01*	insulation materials containing asbestos
17 06 03*	other insulation materials consisting of or containing hazardous substances
17 06 05*	construction materials containing asbestos
17 08	gypsum-based construction material
17 08 01*	gypsum-based construction materials contaminated with hazardous substances
17 09	other construction and demolition wastes
17 09 01*	construction and demolition wastes containing mercury
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 01	wastes from incineration or pyrolysis of waste
19 01 05*	filter cake from gas treatment
19 01 07*	solid wastes from gas treatment
19 01 10*	spent activated carbon from flue-gas treatment
19 01 11*	bottom ash and slag containing hazardous substances
19 01 13*	fly ash containing hazardous substances
19 01 15*	boiler dust containing hazardous substances
19 01 17*	pyrolysis wastes containing hazardous substances
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 05*	sludges from physico/chemical treatment containing hazardous substances
19 02 11*	other wastes containing hazardous substances
19 03	stabilised/solidified wastes
19 03 04*	wastes marked as hazardous, partly stabilised other than 19 03 08
19 03 06*	wastes marked as hazardous, solidified
19 04	vitrified waste and wastes from vitrification
19 04 02*	fly ash and other flue-gas treatment wastes

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
19 04 03*	non-vitrified solid phase
19 08	wastes from waste water treatment plants not otherwise specified
19 08 06*	saturated or spent ion exchange resins
19 08 07*	solutions and sludges from regeneration of ion exchangers
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09
19 08 11*	sludges containing hazardous substances from biological treatment of industrial waste water
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 10	wastes from shredding of metal-containing wastes
19 10 03*	fluff-light fraction and dust containing hazardous substances
19 10 05*	other fractions containing hazardous substances
19 11	wastes from oil regeneration
19 11 01*	spent filter clays
19 11 05*	sludges from on-site effluent treatment containing hazardous substances
19 11 07*	wastes from flue-gas cleaning
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 03*	sludges from soil remediation containing hazardous substances
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 19*	Pesticides
20 01 27*	paint, inks, adhesives and resins containing hazardous substances
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components

Table S2.2 Permitted waste types – inert waste cover for hazardous waste landfills	
Waste code	Description
10	Wastes from thermal processes
10 11	wastes from manufacture of glass and glass products
10 11 03	waste glass-based fibrous materials
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified

Table S2.2 Permitted waste types – inert waste cover for hazardous waste landfills	
Waste code	Description
15 01	packaging (including separately collected municipal packaging waste)
15 01 07	glass packaging
16	Wastes not otherwise specified in the list
16 11	wastes from manufacture of glass and glass products
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 01	Concrete
17 01 02	Bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	wood, glass and plastic
17 02 02	Glass
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 08	track ballast other those mentioned in 17 05 07
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 01	wastes from incineration or pyrolysis of waste
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 05	Glass
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 02	Glass
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Table S2.3 Permitted waste types for restoration	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals

Table S2.3 Permitted waste types for restoration	
Waste code	Description
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 03	wastes from pulp, paper and cardboard production and processing
03 03 05	de-inking sludges from paper recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
04	Wastes from the leather, fur and textile industries
04 02	wastes from the textile industry
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
06	Wastes from inorganic chemical processes
06 05	sludges from on-site effluent treatment
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
08 03	wastes from MFSU of printing inks
08 03 07	aqueous sludges containing ink
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 24	sands from fluidised beds
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 05	wastes from aerobic treatment of solid wastes

Table S2.3 Permitted waste types for restoration	
Waste code	Description
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones)
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 02	soil and stones

Table S2.4 Specific Granular Wastes with elevated WAC limits		
Waste code	Description	
19 01 11*	Bottom ash and slag containing hazardous substances	Chloride, lead, TDS
19 02 04*	Premixed wastes composed of at least one hazardous waste	Chloride, Lead, TDS
19 92 95*	Sludges from physic/chemical treatment containing hazardous substances	Chloride, Lead, TDS
19 03 04*	Wastes marked as hazardous, partly stabilised other than 19 03 08	Chloride, Lead, TDS

Table S2.5 WAC Limits for Specified Granular Wastes	
Component	L/S = 10 l/kg Leaching limit (mg/kg dry substance)
Chloride	<75,000
Lead	<150
Total Dissolved Solids (TDS) ¹	<300,000
¹ The value for TDS can be used alternatively to values for chloride	

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/ Description	Limit	Monitoring frequency	Monitoring standard and method
Operational Cells or Phases (Any cells or phases that do not have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points Cell 2, Cell 3, WLSA1, WLSA3, WLSB6, WLSB8, WLSC10, WLSD12, WLSA3, WLMA4, WLMB7, WLMC9, WLMC11 and WLMD13 as shown on drawing reference Whitemoss MEPP, dated 16/9/19	1m above cell base	Monthly	As specified in Environment Agency Guidance LFTGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
Non Operational Cells or Phases (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points Cell 1 as shown on drawing reference Whitemoss MEPP, dated 16/9/19	1 m above cell base	Quarterly	As specified in Environment Agency Guidance LFTGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.

Table S3.2 Point source emissions to air – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Flare Stack shown on Drawing 'Gas Control System' No. LE00173/107 dated June 2006 (flaring gas from Cells 3A, 3B and 3C.	Oxides of Nitrogen	Landfill Gas Flare	150 mg/m ³	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Monitoring is unnecessary where the flare is active for <10% of the year.
	CO		50 mg/m ³			
	Total VOCs		10 mg/m ³			

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
S1 S2 S3 S4 as shown on drawing reference Whitemoss MEPP,	Suspended Solids	Discharge of groundwater from pumping from the western landfill area (Phases A,	40mg/l	Spot Sample	Weekly	As specified in Environment Agency Guidance LFTGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	pH		>6 and <9 pH units	Spot Sample	Weekly	
	Ammoniacal Nitrogen		2.9mg/l	Spot sample	Weekly	
	Oil or grease		None visible	Spot Sample	Weekly	

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
dated 16/9/19	Flow	B, C, and D) and surface water runoff	The discharge of groundwater from the site should not exceed an annual average of 2.73l/s or 236m3/day or a maximum of 4.91l/s or 424m3/day.	continuous	Continuous	As specified in M18 guidance (v4, Nov 2014) or such other subsequent guidance as may be agreed in writing with the Environment Agency

Table S3.4 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Groundwater drainage system rising main during groundwater control ^a Or 45 ^b , E47, E48, E49, E50r, E51r, E52, E53r, E54, E55, E56, E57, during periods when no groundwater control is taking place	Arsenic	0.028 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Benzene	0.001 mg/l			
	Cadmium	0.0008 mg/l			
	Mercury	0.0001 mg/l			
	Toluene	0.001 mg/l			
	Xylene	0.002 mg/l			
	Ammoniacal Nitrogen	6.5 mg/l			
	Chloride	250 mg/l			

Table S3.4 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
As shown on drawing reference Whitemoss MEPP, dated 16/9/19	Lead	0.010 mg/l			
	Phenols	0.0125 mg/l			
	Sulphate	466 mg/l			
	Zinc	0.074 mg/l			
E59A E60A As shown on drawing reference Whitemoss MEPP, dated 16/9/19	To be agreed in accordance with improvement condition 3	To be agreed in accordance with improvement condition 3	To be agreed in accordance with improvement condition 3	To be agreed in accordance with improvement condition 3	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
<p>a. Please note that the groundwater drainage system rising main will change location as landfilling from A to D.</p> <p>b. Monitoring borehole 45 should be monitored up until the commencement of the construction of Phase C when its role of monitoring Cells 3 will be undertaken by boreholes E47 and E48</p>					

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
Boreholes E56, E56A, E57, E57A, E58, E60, E60A, E61, E61A, E62A, E63A and E64A	Methane	To be agreed in writing by the Environment Agency following submission of the report by the operator for Improvement Condition 4 in Table S1.3	Monthly	As specified in Environment Agency Guidance LFTGN03 (September 2004), or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
	Carbon Dioxide			
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole E62	Methane	20.3 %v/v	Monthly	
	Carbon Dioxide	no limit		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole E63	Methane	8.0 %v/v	Monthly	
	Carbon Dioxide	no limit		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
Borehole E64	Methane	5.8 %v/v	Monthly	
	Carbon Dioxide	4.3 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		

Table S3.6 Point source emissions to sewer, effluent treatment plant or by tankering or other transfer off-site – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Discharge to sewer – After the leachate storage and treatment facility and before leaving the installation boundary as identified on plan reference LE00173PPC012	Quantity	Leachate Lagoon	150m ³ /day	Continuous	Continuous	As specified in M18 guidance (v4, Nov 2014) guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Cadmium*	Leachate lagoon	8µg/l	Spot sample	Monthly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of landfill Leachate, Groundwater and Surface Water' (February, 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency. 'Compliance for Cadmium and Mercury shall be assessed using a rolled 3-point average (i.e. the average of the latest and previous two monitoring results for these substances).
	Mercury*	Leachate Lagoon	1.6µg/l	Spot sample	Monthly	

Table S3.7 Particulate matter in ambient air - monitoring requirements

Monitoring Point Ref. /Description	Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard or Method
20m downwind of asbestos disposal cell	Asbestos Fibres	Where total fibre concentration exceeds 0.01 fibres/ ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres	2 hours	Twice per year or every 5000 tonnes asbestos deposited, whichever is greater.	While asbestos is being deposited. <ul style="list-style-type: none"> • Pumped sampling • 1m above ground level • Flow rate = 4 litres/ minute • Minimum sample volume = 480 litres • Filter pore size = 1.2µm
50m upwind of asbestos disposal cell	Asbestos Fibres		2 hours	During all downwind monitoring	

Site boundary downwind of asbestos disposal cell	Asbestos Fibres	present	2 hours	Minimum twice per year.	Asbestos fibre limit of detection = 0.001 fibres/ ml
C1, C2 ⁽¹⁾ and C3 as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Particulate PM ₁₀	50µg/m ³ ⁽²⁾	Measured as a 24 hour mean concentration	Continuous	Agency guidance 'Monitoring of particulate matter in ambient air around waste facilities, M17' version 2 dated July 2013 or such other subsequent guidance as may be agreed in writing with the Environment Agency.
		40 µg/m ³	Measured as an annual mean	Continuous	
F1, F2 ⁽¹⁾ , F3, F4, F5 as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Deposited particulate matter	200mg/m ² /day	24 hours	Quarterly	
Note 1 – Not necessary to install monitoring points C2 and F2 until operations commence in Phase B. Note 2 – 35 results in excess of 50µm ³ are allowed per year without the air quality objective being exceeded					

Table S3.8 Landfill gas emissions from capped surfaces for cells that have accepted non hazardous biodegradable waste – monitoring requirements (cells 3A, 3B, and 3C only)

Monitoring point Ref. /description	Parameter	Monitoring frequency	Monitoring Standard or method
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Temporarily capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Whole site	Total Methane emission	As agreed with the Environment Agency	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Uncapped areas	Methane concentration	Every 12 months	As agreed with the Environment Agency based on the wording of revised LFTGN 07 or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.9 Groundwater – other monitoring requirements

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Water level, Ammoniacal Nitrogen, Chloride, Electrical Conductivity, pH	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually	
	Hazardous substances plus Antimony, Barium, DOC, Fluoride, Molybdenum, Selenium	Annually for first six years of operation	

Down or cross gradient MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Water level, Ammoniacal Nitrogen, Chloride, Electrical Conductivity, pH	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually	
	Hazardous substances plus Antimony, Barium, DOC, Fluoride, Molybdenum, Selenium	Annually for first six years of operation then every two years	After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.
MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Base of monitoring point (mAOD)	Annually	

Table S3.10 Landfill gas – other monitoring requirements

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
One in waste borehole per cell and / or leachate wells for all cells or Phases except for cells 2, 3A, 3B, and 3C where pin wells shall be monitored.	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly	Calibrated handheld monitoring instrument	
	Hydrogen sulphide Hydrogen	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentration of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
One in waste borehole or one leachate well per cell for all cells or phases except for cells 2, 3A, 3B and 3C where 1 pin well shall be monitored per cell.	Trace gas	Annual	Trace gas analysis in accordance with LFTGN04 (v3, 2010) or a trace gas characterisation method agreed with the Environment Agency or such other subsequent guidance as may be agreed in writing with the Environment Agency	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.

Table S3.10 Landfill gas – other monitoring requirements

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon monoxide Atmospheric Pressure Gas flow rate or suction % balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such frequency as may be agreed in writing with the Environment Agency	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken. Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertaken. Record the ambient air temperature and whether the ground is: Waterlogged Frozen Snow covered
Gas collection system at well control valve	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, 2010) or other such subsequent guidance as may be agreed with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
Output to flare or LFG Utilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (V3, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency or a trace gas characterisation method agreed with the Environment Agency	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.

Table S3.10 Landfill gas – other monitoring requirements

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Output to flare or LFG Utilisation Compound	Methane Carbon Dioxide Oxygen Gas flow rate Suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Weekly	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken.
Drawing 'Gas Control System' No. LE00173/107 dated June 2006	Temperature	As per LFTGN05 (v2, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency.	

Table S3.11 Leachate – other monitoring requirements				
Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Operational Cells or Phases (Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)				
MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Ammoniacal Nitrogen, Arsenic, BOD, Cadmium, Calcium, Chloride, Chromium, COD, Copper, Electrical Conductivity, Iron, Lead, Magnesium, Manganese, Nickel, pH, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Quarterly	At leachate compliance points as listed in table S3.1. As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency	None
MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Hazardous substances plus Antimony, Barium, DOC, Fluoride, Molybdenum, Selenium	Annually		
MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Depth to base (mAOD)	Annually		
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)				
MEPP as shown on drawing 'reference Whitemoss MEPP, dated 16/9/19	Ammoniacal Nitrogen, Arsenic, BOD, Cadmium, Calcium, Chloride, Chromium, COD, Copper, Electrical Conductivity, Iron, Lead, Magnesium, Manganese, Nickel, pH, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually	At leachate compliance points as listed in table S3.1. As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be	None
MEPP as shown on drawing 'reference Whitemoss MEPP, dated 16/9/19	Hazardous substances plus Antimony, Barium, DOC, Fluoride, Molybdenum, Selenium	Once every four years		

Table S3.11 Leachate – other monitoring requirements				
Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP as shown on drawing 'reference Whitemoss MEPP, dated 16/9/19	Depth to base (mAOD)	Annually	agreed in writing with the Environment Agency	

Table S3.12 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP as shown on drawing reference Whitemoss MEPP, dated 16/9/19	Ammoniacal Nitrogen Chloride Electrical conductivity pH Suspended solids Visual Oil and Grease	Monthly	Spot sample	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Leachate and/ or groundwater level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by schedule 3, table S3.2	Every 12 months	31 December
Point source emission to water (other than sewer) As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.5	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to sewer, effluent treatment plant, tankering or other off site transfer As specified by schedule 3, table S3.6	Every 3 months	31 March, 30 June, 30 September, 31 December
Particulate matter in ambient air. As required by schedule 3, table S3.7	Every 6 months	30 June, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.8	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.9	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.10	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other leachate monitoring As specified by schedule 3, table S3.11	Every 12 months	31 December
Other surface water monitoring As specified by schedule 3, table S3.12	Every 12 months	31 December
Meteorological data Landfill Directive, annex III, section 2	Every 12 months	31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2: Annual production/treatment	
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass;	Cubic metres/year
Landfill gas: combustion in flares; Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.10 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year % methane v/v m ³ /hr

Table S4.3 Performance Parameters			
Parameter	Frequency of assessment	Annual total	Unit
Energy used (including for leachate treatment)	Annually		MWh of electricity or natural gas

Table S4.4 Reporting Forms		
Media/parameter	Reporting Format	Date of Form
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Sewer	Form Sewer 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Waste Return	Waste Return Form RATS2E	13/10/14
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	13/10/14

Schedule 5 – Notification

This page outlines the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B to be supplied as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“annually” means once every year.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“background concentration” means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

“cell layout drawing” means:

- (a) A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:
 - (i) the location of the new cell on the site;
 - (ii) the proposed level (Above Ordnance Datum) of the base of the excavation;
 - (iii) the proposed finished levels of all containment and leachate drainage layers;
 - (iv) the positions of leachate management infrastructure; and
 - (v) the positions of landfill gas infrastructure (if appropriate).
- (b) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:
 - (i) changes to slope length and gradient within the cell;
 - (ii) new leachate or landfill gas infrastructure construction design;
 - (iii) slope stability issues such as new basal excavation level; and/or
 - (iv) depth of waste.

“construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the New Cell or Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the New Cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- “As-built” plans and sections of the works;
- Copies of the site engineer’s daily records;

- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the New Cell or Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154 and words and expressions used in this permit which are also used in those Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154, schedule 22 and listed in our Hydrogeological risk assessment guidance.

“inert waste” means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater

“landfill Infrastructure” means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;
- lining within the installation.

within the site.

“LFTGN 05” means Environment Agency Guidance for monitoring enclosed landfill gas flares.

“LFTGN 07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

“LFTGN 08” means Environment Agency Guidance for monitoring landfill gas engines.

“liquids” means any liquid other than leachate within the engineered landfill containment system.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on

waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“M2” means Environment Agency Guidance Monitoring of stack emissions to air.

“medicinal product” means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or their predecessors under the Medicines Act 1968, section 130.

“MEPP” Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

“new cell” means any new cell, part of a cell or other similar new area of the site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

“no impact” means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

“pests” means Birds, Vermin and Insects.

“previous year” means the 12 month period preceding the month the annual report is submitted in.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“review of the Hydrogeological Risk Assessment” means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

‘sustainably extracted’ means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

‘waste code’ - See ‘List of Wastes’.

“WFD” means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste [and repealing certain Directives] – the Waste Framework Directive.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08.

Where the following terms appear in the waste code list in Tables S2.1, S2.3, S2.4, they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008;

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘polychlorinated biphenyls and polychlorinated terphenyls’ (‘PCBs’) means PCBs as defined in Article 2(a) of Council Directive 96/59/EC’.

Article 2(a) says that ‘PCBs’ means:

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 % by weight;

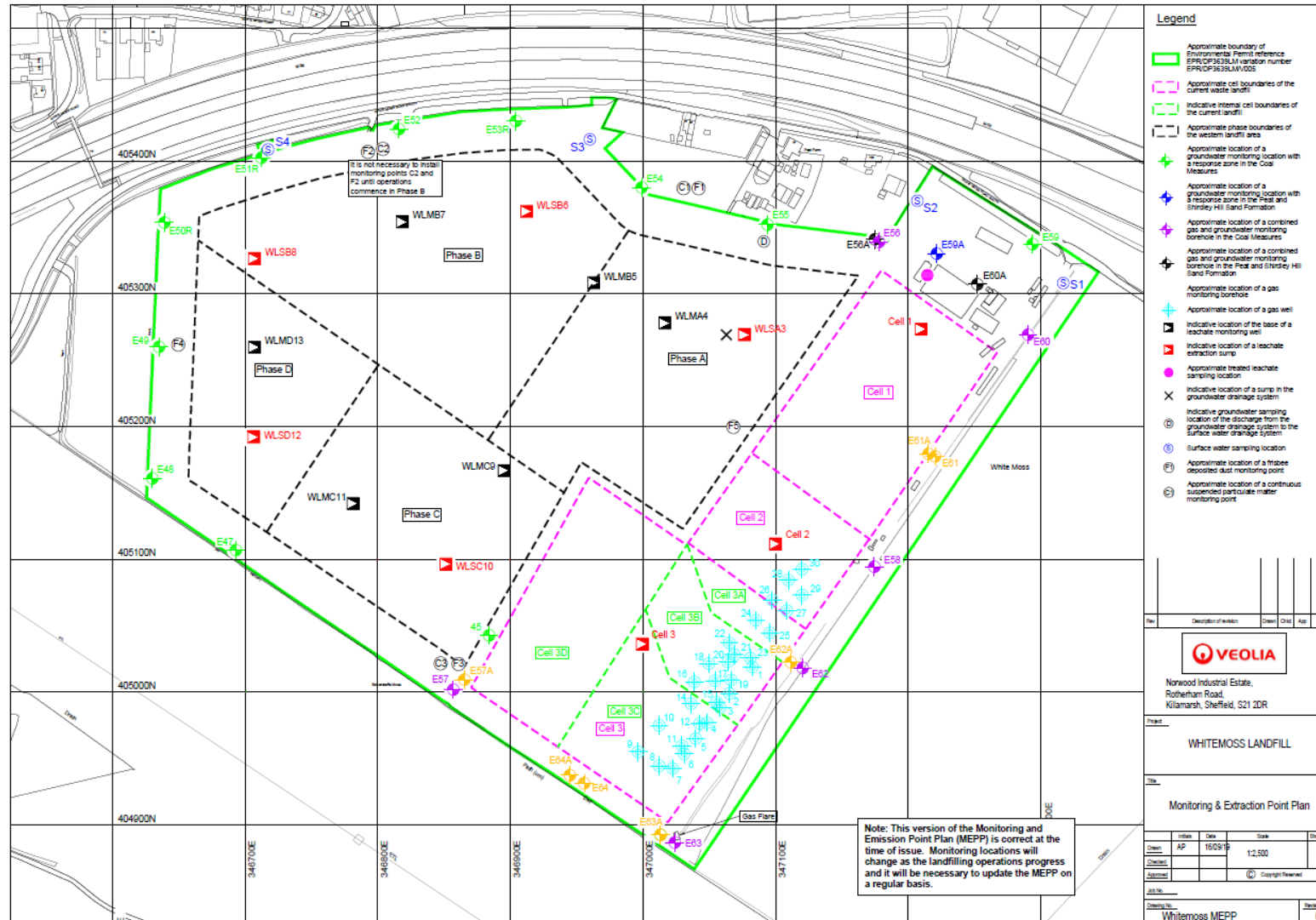
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan



END OF PERMIT

Permit number
EPR/DP3034YR

The Company Director and/or Secretary
Acumen Waste Services Limited
Acumen House
Headlands Lane
Knottingley
West Yorkshire
WF11 0LA

Date: 07/03/2023

Dear The Company Director and/or Secretary

Transfer of permit is complete

Permit reference: EPR/MP3944QE/T001

Operator: Acumen Waste Services Limited

Facility: West Yorkshire Treatment Centre

Our determination of your application for a full transfer is complete. We're satisfied that you will be the person who will operate the facility and you will comply with the requirements of the permit.

The transfer takes effect from 27/02/2023. I enclose a notice showing the transfer details and your permit conditions. Keep this in a safe place with your other permit records.

This letter contains web links to other documents. If you aren't able to access these phone our Customer Contact Centre for help on 03708 506 506.

The permit should have been passed to you during the handover of the property or business. If you do not have a copy of the permit you must contact a local officer. Telephone our Customer Contact Centre and they will put you in touch with an Area officer. The Area officer can also help you with any other questions you have about the permit.

Please look at the table below and note any of the things that apply to your permit.

If...	then..
you plan to keep your records at a site other than where the activity takes place	you need to let us know within 20 working days of receiving this letter.
your permit includes pre-operational or improvement conditions	check the deadlines for completing measures and make sure you carry them out by the times stated. Note: from the 1st October 2018, additional charges apply for assessments or approvals under these conditions. The exception is for new waste incinerator or co-incinerator permits

Table continues on next page.

If...	then..
you're carrying out a waste operation or activity and need to submit quarterly waste returns on waste movements	you can get the forms you need from our website https://www.gov.uk/government/collections/national-operator-waste-returns When you complete your return, use the waste returns reference above.
you need to submit other returns	speak to your local Environment Agency regulatory officer to check arrangements.
your permit includes a (non-low impact) installation	we enclose a legal notice and information about reporting to the Pollution Inventory.

Read the following guides to find out more about complying with your permit:

www.gov.uk/guidance/develop-a-management-system-environmental-permits
www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit
www.gov.uk/guidance/legal-operator-and-competence-requirements-environmental-permits

A local regulatory officer will visit you to assess compliance with your permit conditions.

Subsistence charges

Most permits attract a subsistence charge for each full or part financial year they are in force. The exceptions are:

If...	then..
your permit is only for mobile plant	there is no subsistence charge, instead we will charge for each deployment. This does not apply to some mobile plant permits that allow the spreading of wastes on land. In these cases both subsistence and deployment charges apply.
construction work or operation of your facility has yet to start	no subsistence charge is due until activities begin. This does not apply to waste incineration or co-incineration plant, where a fixed pre-construction charge applies.

If a subsistence charge is due, your first invoice will be for a pro rata amount. This amount will be based on the date of permit transfer until the end of the financial year.

You can find further information on charging, including when additional charges apply in our charging scheme:

<https://www.gov.uk/government/publications/environmental-permitting-charging-scheme-2019>

and charging guidance:

<https://www.gov.uk/government/publications/environmental-permitting-charges-guidance/environmental-permitting-charges-guidance>

If you have any questions about this permit please phone our Customer Contact Centre on 03708 506 506. They will put you in touch with a local regulatory officer.

The National Permitting Service is committed to improving its customer service. By completing our customer satisfaction survey you can tell us what we are doing right and what we could do better. The survey should take no more than 10 minutes to complete and you can do so by clicking [NPS Survey](#).

Yours faithfully

Jonathan Wight
Permitting Support Advisor

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Waste Recycling Group (Central) Limited
Edwin Richards Quarry - Soil Treatment Centre
Portway Road
Rowley Regis
Warley
West Midlands
B65 9BT

Variation application number

EPR/HP3632RP/V003

Permit number

EPR/HP3632RP

Edwin Richards Quarry - Soil Treatment Centre

Permit number EPR/HP3632RP

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

The operator has applied to vary the permit to

- Amend the split of hazardous / non-hazardous waste treated at the facility by increasing the annual throughput for hazardous waste from 29,999 tonnes per annum (tpa) to 89,999 tpa and reducing the annual throughput for non-hazardous waste from 120,001 tpa to 60,001 tpa;
- Permit acceptance of wastes classified as hazardous HP10 (toxic for reproduction);
- Addition of EWC Codes 19 12 11* other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances and 19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 to Table S2.3;
- Addition of code R5 to Table S1.1 to enable equivalent treatment activities to S5.3 A(1)(a)(i) and S5.4 A(1)(b)(i) for recovery as well as disposal;
- Increase of non-hazardous waste storage limit from 100,000 tonnes to 150,000 tonnes;
- Amendment to Table S1.1 Activity S5.6 A(1)(a) or addition of a new activity for the temporary external storage of up to 10,000 tonnes untreated hazardous soils containing asbestos pending further treatment or transfer off-site;
- Permission to pre-screen soils containing bonded asbestos debris; and,
- Removal of the dewatering and solidification activities.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application EPR/HP3632RP/V003	Duly made 08/02/2016	Application for new permit for a waste soil treatment facility.
Additional information received response to schedule 5 notice	10/05/2016	Additional information, including; site drainage plans.
Additional information received response to schedule 5 notice and request for additional information.	23/06/2016	Additional information, including; confirmation of waste types and biopile monitoring parameters.
Additional information received response to schedule 5 notice	30/06/2016	Email confirming destination of uncontaminated surface water runoff.
Permit determined EPR/HP3632RP	25/07/2016	Permit issued to Waste Recycling Group (Central) Limited.

Status log of the permit		
Description	Date	Comments
(PAS Billing ref. HP3632RP)		
Application EPR/HP3632RP/V002 (variation and consolidation)	Duly made 16/11/17	Application to vary the permit to add hand picking of identifiable pieces of bonded asbestos from waste soil. Waste code 19 12 07 is also added to Table S2.3 for the bioremediation process. As part of this variation a consolidated permit has been issued.
Variation determined EPR/HP3632RP/V002	26/02/18	Varied permit issued.
Application EPR/HP3632RP/V003 (variation and consolidation)	Duly made on 05/11/2019	Application to <ul style="list-style-type: none"> • Amend the split of hazardous / non-hazardous waste treated at the facility; • Permit acceptance of wastes classified as hazardous HP10 (toxic for reproduction); • Addition of EWC Codes 19 12 11* and 19 12 12 to Table S2.3; • Addition of code R5 to Table S1.1 to enable equivalent treatment activities to S5.3 A(1)(a)(i) and S5.4 A(1)(b)(i) for recovery as well as disposal; • Increase of non-hazardous waste storage limit from 100,000 tonnes to 150,000 tonnes; • Amendment to Table S1.1 Activity S5.6 A(1)(a) or addition of a new activity for the temporary external storage of up to 10,000 tonnes untreated hazardous soils containing asbestos pending further treatment or transfer off-site; • Permission to pre-screen soils containing bound asbestos debris; and, • Removal of the dewatering and solidification activities.
Additional information received response to schedule 5 notice	22/06/2020, 26/06/2020 & 14/07/2020	Letters with responses including, removal of EWC codes 17 09 03* & 17 09 04 to Table S2.6 from the application and 30 M ³ limit of storage of waste woodchip only.
Additional information received response to schedule 5 notice	16/07/2020	Letter with responses including drawing no. 100993 – Asbestos DWG2/Rev 2 dated June 2020 (drainage plan) and a revised H1 assessment in connection with water discharges from the site.
Additional information received response to schedule 5 notice	02/11/2020	Email requesting a change in annual throughput for both hazardous and non-hazardous wastes. Other documents submitted: - An updated Environmental Risk assessment,

Status log of the permit		
Description	Date	Comments
		Emissions management and monitoring plan including drawing no.100993 – Asbestos DWG3/Rev1 dated October 2020, An updated technical report, and An updated technical standards document.
Additional information received	13/05/2021	Email with confirmation of wastes types that can only be treated for disposal purposes in the bioremediation process.
Variation determined EPR/HP3632RP/V003	02/06/2021	Varied permit issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/HP3632RP

Issued to

Waste Recycling Group (Central) Limited ("the operator")

whose registered office is

**Ground Floor West
900 Pavilion Drive
Northampton Business Park
Northampton
NN4 7RG**

company registration number 04000033

to operate a regulated facility at

**Edwin Richards Quarry - Soil Treatment Centre
Portway Road
Rowley Regis
Warley
West Midlands
B65 9BT**

to the extent set out in the schedules.

The notice shall take effect from 02/06/2021

Name	Date
Daniel Timney	02/06/2021

Authorised on behalf of the Environment Agency

Schedule 1

Only conditions 2.3.4, TableS1.1, Table S1.2, Table S1.3, Table S1.4, Table S2.2, Table S2.3, Table S2.4, Table S3.2, Table S3.3, Table S4.1 and Table S4.2 have been varied by the consolidated permit
EPR/HP3632RP

The following conditions were varied as a result of the application made by the operator:

- Condition 2.3.4 has been amended to reflect the change to the numbering of the waste types tables.
- Table S1.1 has been amended to remove the dewatering and solidification activities, including reference to the associated waste types table (Table S2.4) and remove the DAA non-hazardous waste storage, associated waste types table (Table S2.5) not connected to on-site treatment activities, add R5 operations for the bioremediation process and limiting certain waste types to treatment for disposal purposes only, limit the storage of combustible waste on site to 30M³ and to permit the use of the mechanical screener once pre-operational condition 1 has been given written permission.
- Table S1.2 to reference new documents in the operating techniques.
- Table S1.3 to include a pre-operational condition in connection with the use of the mechanical screener for the screening of asbestos contaminated soils.
- Table S1.4 to indicate the improvement condition has been completed.
- Table S2.2 to amend the annual tonnage of hazardous and non-hazardous that can be accepted on site and restrict the combustible waste to untreated woodchip only.
- Table S2.3 to amend the annual tonnage of hazardous and non-hazardous that can be accepted on site, restrict the combustible waste to untreated woodchip only, add EWC codes 19 12 11* and 19 12 12 and to add HP10 .
- Table S2.4 replaces Table S2.6 and amend the annual tonnage of hazardous and non-hazardous that can be accepted on site
- Table S3.2 to include the reference to the drainage plan.
- Table S3.3 to include details on the asbestos monitoring for both the external and internal activities and reference to a new location plan.
- Table S4.1 to include reporting requirements for asbestos monitoring.
- Table S4.2 to remove reference to the dewatering and solidification activities.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/HP3632RP

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/HP3632RP/V003 authorising,

Waste Recycling Group (Central) Limited (“the operator”),

whose registered office is

**Ground Floor West
900 Pavilion Drive
Northampton Business Park
Northampton
NN4 7RG**

company registration number 04000033

to operate an installation at

**Edwin Richards Quarry - Soil Treatment Centre
Portway Road
Rowley Regis
Warley
West Midlands
B65 9BT**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Daniel Timney	02/06/2021

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
 - (a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3 and S2.4, and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
 - (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

Hazardous waste storage and treatment

- 2.3.7 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

2.4 Pre-operational conditions

- 2.4.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.3 have been completed.

2.5 Improvement programme

- 2.5.1 The operator shall complete the improvements specified in schedule 1 table S1.4 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.5.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2;
 - (b) process monitoring specified in table S3.3;
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.6.2 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.7 Fire prevention

- 3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.7.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
- (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production/treatment data set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1(a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);

- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity Reference No. and activity description	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
AR1 - Physical treatment of hazardous waste	S5.3A(1)(a)(ii)	<p>Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment</p> <p>D9: Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12</p>	<p>From receipt of hazardous waste to despatch for other on-site operations or off-site disposal.</p> <p>Physical treatment consisting of sorting, separation and screening of hazardous waste.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system</p> <p>Temporary storage of hazardous waste following treatment for off-site disposal.</p> <p>The hazardous waste specified in table S2.2</p>
AR2 - Asbestos removal from soils	S5.3A(1)(a)(ii)	<p>Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment</p> <p>D9: Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12</p>	<p>From receipt of hazardous waste through to storage of treated waste prior to being subject to bioremediation or sent off-site for disposal.</p> <p>Treatment consisting only of the following:</p> <ul style="list-style-type: none"> • Once pre-operational condition 1 has been given written permission the mechanical screening of waste soil prior to transfer to the hand picking line. • Hand picking of identifiable pieces of bonded asbestos from waste soils in a dedicated enclosed picking line <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system within the building (labelled as 'dust shed') as shown on drawing number 100993 – Asbestos DWG1 dated January 2018.</p>

Table S1.1 activities			
Activity Reference No. and activity description	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			<p>Waste subject to this process shall only be contaminated with asbestos alone or in combination with hydrocarbons.</p> <p>Asbestos removed from the soil shall be double-bagged and stored in a sealed locked skip.</p> <p>Temporary storage of hazardous waste following treatment prior to further treatment on site or off-site disposal.</p> <p>Subject to any other requirements of this permit wastes shall be stored for no longer than 1 year prior to disposal.</p> <p>Waste types and quantities as specified in Table S2.4.</p>
AR3 - Physical treatment of non-hazardous waste	S5.4A(1)(a)(ii)	<p>Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving physico-chemical treatment</p> <p>D9: Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12</p>	<p>From receipt of non-hazardous waste to despatch for other on-site operations or off-site disposal.</p> <p>Physical treatment consisting of sorting, separation, screening and crushing of non-hazardous waste.</p> <p>Temporary storage of non-hazardous waste following treatment prior to further treatment on site or off-site disposal.</p> <p>The non-hazardous wastes specified in table S2.2</p>
AR4 - Bioremediation of hazardous waste for disposal	S5.3 A(1)(a)(i)	<p>Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment</p> <p>D8: Biological treatment resulting in final compounds or mixtures which are discarded by any of the</p>	<p>Bioremediation process for hazardous waste.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system</p> <p>Temporary storage of hazardous waste following bioremediation,</p>

Table S1.1 activities			
Activity Reference No. and activity description	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
		operations numbered D1 to D12	pending further treatment on-site or off-site disposal. The hazardous waste specified in table S2.3
AR5 - Bioremediation of hazardous waste for recovery	S5.3 A(1)(a)(i)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment R5: Biological treatment	Bioremediation process for hazardous waste. All treatment and storage shall take place on an impermeable surface with a sealed drainage system Temporary storage of hazardous waste following bioremediation, pending further treatment on-site or off-site recovery. The hazardous waste specified in table S2.3. Notwithstanding the above, the following waste EWC codes shall not be treated for recovery purposes: 19 02 04*, 19 02 05*, 19 02 11* & 19 1211*
AR6 - Bioremediation of non-hazardous waste for disposal	S5.4A(1)(a)(i)	Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment D8: Biological treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12	Bioremediation process for non-hazardous waste. All treatment and storage shall take place on an impermeable surface with a sealed drainage system. Temporary storage of non-hazardous waste following bioremediation, pending further treatment on-site or off-site disposal. The non-hazardous wastes specified in table S2.3.
AR7 - Bioremediation of non-hazardous waste for recovery	S5.4A(1)(b)(i)	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment R5: Biological treatment	Bioremediation process for non-hazardous waste. All treatment and storage shall take place on an impermeable surface with a sealed drainage system.

Table S1.1 activities			
Activity Reference No. and activity description	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			<p>Temporary storage of non-hazardous waste following bioremediation, pending further treatment on-site or for recovery.</p> <p>The non-hazardous wastes specified in table S2.3. Notwithstanding the above, the following waste EWC codes shall not be treated for recovery purposes: 19 02 03 & 19 12 12.</p>
AR8 - Temporary storage of hazardous waste pending treatment on site.	S5.6 A(1)(a)	<p>The temporary storage of hazardous waste in a facility with a total capacity exceeding 50 tonnes pending any of the activities listed in sections 5.1, 5.2 and 5.3.</p> <p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R13: Storage of waste pending the operations numbered R1 and R13 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>Temporary storage of hazardous waste pending treatment on site under activities AR1, AR2, AR4 and AR5.</p> <p>All hazardous waste shall be stored on an impermeable surface with a sealed drainage system.</p> <p>Asbestos contaminated soil shall be stored either within the building as shown on drawing number 100993 – Asbestos DWG1 dated January 2018 (labelled as ‘dust shed’) in a way that minimises asbestos fibre emissions or stored externally, ensuring it remains damped down and covered, unless being transported, so as to minimise potential asbestos fibre emissions.</p> <p>The maximum amount of asbestos contaminated soil to be stored externally shall not exceed 10,000 tonnes.</p> <p>Asbestos removed from the soil shall be double-bagged and stored in a sealed locked skip.</p> <p>Subject to any other requirements of this permit wastes shall be stored for no longer than 1 year prior to disposal.</p>

Table S1.1 activities			
Activity Reference No. and activity description	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			Hazardous wastes as specified in table S2.2 table S2.3 and table S2.4.
Directly Associated Activity			
AR9	Fuel storage	Storage of diesel.	From receipt of fuel to use on-site for power generation
AR10	Water storage	Collection and storage of process water	From collection of process water to re-use within the facility or discharge to foul sewer.
AR11	Waste storage	<p>Temporary storage of non-hazardous waste</p> <p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R13: Storage of waste pending the operations numbered R1 and R13 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>Temporary storage of non-hazardous waste prior to treatment on site under activities AR3, AR6 and AR7 above.</p> <p>The maximum tonnage of non-hazardous waste stored on site, at any one time, shall not exceed 150,000 tonnes.</p> <p>Notwithstanding the above, the maximum volume of combustible waste (wood) on site at any one time shall not exceed 30m³.</p> <p>Storage of combustible waste shall take place on an impermeable surface with a sealed drainage system</p> <p>Non-hazardous wastes specified in table S2.2 and S2.3.</p>
AR12	Raw material storage	Temporary storage of raw materials including solidifying agents such as ash prior to use in the solidification process.	From the receipt of raw materials to despatch for use within the facility.
AR13	Effluent treatment plant	Treatment of process water prior and the re-use of such water on site to discharge from the site.	

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/HP3632RP/A001	Application forms B2 and B3 and referenced supporting information. Excluding waste code 17 06 05* for the Soil Treatment Centre Waste Types in Table 3.3 (Page 36) dated 27 November 2015. Excluding the woody waste limit of < 1% of the biopiles volume.	Duly Made 08/02/2016
Response to schedule 5 notice EPR/HP3632RP/A001	All parts, including; hazardous and non-hazardous waste treatment and storage procedures. Excluding waste code 17 06 05* for the Soil Treatment Centre Waste Types Accepted for Physical Treatment in Table A1 (Page 11) of the Schedule 5 Response dated 10 May 2016.	10/05/2016
Response to schedule 5 notice and request for additional information. EPR/HP3632RP/A001	All parts, including; confirmation of biopile performance parameter monitoring regime.	23/06/2016
Response to schedule 5 notice EPR/HP3632RP/A001	Confirmation of surface water drainage destination.	30/06/2016
Application EPR/HP3632RP/V002	Application form C3 section 3a – technical standards and referenced supporting information.	Duly Made 16/11/17
Response to Schedule 5 Notice dated 15/01/18	All parts document reference: 3483/L/007/05.	29/01/18
Application EPR/HP3632RP/V003	Application form C3 section 3a – technical standards and referenced supporting information. Odour Management plan ref 4236/R/006/2 Dust Management Plan ref 4236/R/005/2	Duly Made 05/11/2019
Response to Schedule 5 Notice dated 28/09/2020	An updated Environmental Risk assessment, Emissions management and monitoring plan amendment, An updated technical report, and An updated technical standards document.	02/11/2020
Additional information	Email with confirmation of wastes types that can only be treated for disposal purposes in the bioremediation process.	13/05/2021

Table S1.3 Pre-operational measures	
Reference	Pre-operational measures
1	<p>Prior to the use of the mechanical screener for the pre-screening of asbestos contaminated soils under activity reference AR2 a report shall be submitted for written permission detailing the following aspects:</p> <ul style="list-style-type: none"> • Evidence to demonstrate that the mechanical screener is fully enclosed and all dust emissions from the screening operation are directed to an active abatement system with a HEPA filter or other suitable design. • Details of the proposed commissioning, operational and maintenance procedures associated with the mechanical screener and active abatement system to be implemented on site. • Details of monitoring checks, audits and emergency procedures to be implemented on site to ensure both the mechanical screener and active abatement system are fully operational and working as designed. <p>No mechanical pre-screening of asbestos contaminated soils under activity reference AR2 shall commence unless the Environment Agency has given prior written permission under this condition.</p>

Table S1.4 Improvement programme requirements		
Reference	Requirement	Date
IP1	<p>The Operator shall complete the site drainage works within the building (labelled as 'dust shed'), as detailed in point 3 of the Schedule 5 response dated 29/01/18, to:</p> <ul style="list-style-type: none"> • seal the redundant manholes; • install kerbing at both the entrance and exit; and • install a drainage sump to collect any excess runoff generated from the spraying of water used to control dust and asbestos fibres. <p>Following completion of these works the operator shall submit a revised site drainage plan to the Environment Agency.</p>	Completed

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
--	--

Table S2.2 Permitted waste types and quantities for physical treatment of waste	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,001 tonnes per annum of non-hazardous waste will be accepted for treatment at the site. Waste hazardous properties HP4 to HP7, HP14
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 09	waste sand and clays
01 05	drilling muds and other drilling wastes
01 05 04	freshwater drilling muds and wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 05*	oil spills
05 01 15*	spent filter clays
10	Wastes from thermal processes
10 09	wastes from casting of ferrous pieces
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 10	wastes from casting of non-ferrous pieces
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges

Table S2.2 Permitted waste types and quantities for physical treatment of waste	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,001 tonnes per annum of non-hazardous waste will be accepted for treatment at the site. Waste hazardous properties HP4 to HP7, HP14
Waste code	Description
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 02	wood, glass and plastic
17 02 01	wood (consisting of untreated woodchips only)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing hazardous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing hazardous substances
17 05 08	track ballast other than those mentioned in 17 05 07
17 09	other construction and demolition wastes
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 04*	premixed wastes composed of at least one hazardous waste – wastes suitable for biological treatment only
19 02 05*	sludges from physico/chemical treatment containing hazardous substances – wastes suitable for biological treatment only
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05 – wastes suitable for biological treatment only
19 02 11*	other wastes containing hazardous substances – wastes suitable for biological treatment only
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 01	screenings
19 08 02	waste from desanding
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water

Table S2.2 Permitted waste types and quantities for physical treatment of waste	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,001 tonnes per annum of non-hazardous waste will be accepted for treatment at the site. Waste hazardous properties HP4 to HP7, HP14
Waste code	Description
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 38	wood other than that mentioned in 20 01 37 (consisting of untreated woodchips only)
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 02	soil and stones
20 03	other municipal wastes
20 03 03	street-cleaning residues

Table S2.3 Permitted waste types and quantities for treatment in the bioremediation process	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,001 tonnes per annum of non-hazardous waste will be accepted for treatment at the site. Waste hazardous properties HP4 to HP7, HP10, HP11 and HP14
Exclusions	Wastes having any of the following characteristics shall not be accepted: Waste containing asbestos
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 09	waste sand and clays
01 05	drilling muds and other drilling wastes
01 05 04	freshwater drilling muds and wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 05*	oil spills

Table S2.3 Permitted waste types and quantities for treatment in the bioremediation process	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,001 tonnes per annum of non-hazardous waste will be accepted for treatment at the site. Waste hazardous properties HP4 to HP7, HP10, HP11 and HP14
Exclusions	Wastes having any of the following characteristics shall not be accepted: Waste containing asbestos
Waste code	Description
05 01 15*	spent filter clays
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 02	wood, glass and plastic
17 02 01	Wood (consisting of untreated woodchips only)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing hazardous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing hazardous substances
17 05 08	track ballast other than those mentioned in 17 05 07
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 05*	sludges from physico/chemical treatment containing hazardous substances
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 11*	other wastes containing hazardous substances
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 01	screenings
19 08 02	waste from desanding

Table S2.3 Permitted waste types and quantities for treatment in the bioremediation process	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,001 tonnes per annum of non-hazardous waste will be accepted for treatment at the site. Waste hazardous properties HP4 to HP7, HP10, HP11 and HP14
Exclusions	Wastes having any of the following characteristics shall not be accepted: Waste containing asbestos
Waste code	Description
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06 (consisting only of untreated woodchip)
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances. (consisting of soils only)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of waste other than those mentioned in 19 12 11. (consisting of soils only)
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 38	wood other than that mentioned in 20 01 37 (consisting of untreated woodchips only)
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 03	other municipal wastes
20 03 03	street-cleaning residues

Table S2.4 Permitted waste types and quantities for handpicking of asbestos waste	
Maximum quantity	In total no more than 89,999 tonnes per annum of hazardous waste and no more than 60,000 tonnes per annum of non-hazardous waste will be accepted for treatment at the site.
Exclusions	<p>Wastes having any of the following characteristics shall not be accepted:</p> <p>Asbestos in unbound fibrous form (FREE CHRYSOTILE FIBROUS ASBESTOS IN THE SOIL MUST BE < 0.1% w/w. OTHER FORMS OR MIXED FORMS OF FIBROUS ASBESTOS IN THE SOIL MUST BE <0.01% w/w)</p> <p>Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15</p>
Waste code	Description
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 05 04	soil and stones other than those mentioned in 17 05 03 (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 06	insulation materials and asbestos-containing construction materials
17 06 05*	construction materials containing asbestos (DISCRETE PIECES OF BONDED ASBESTOS WITHIN THE SOIL MATRIX ONLY)

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 (biofilter on Figure 3, Site Layout dated November 2015, submitted with EPR/HP3632RP/A 001)	Biofilter - Soil Treatment	Total Petroleum Hydrocarbons (TPH)	No limit set	Hourly mean	Monthly	As per M8 or other subsequent guidance as agreed in writing with the Environment Agency
		Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX)	No limit set	Hourly mean	Monthly	
		Polycyclic Aromatic Hydrocarbons (PAHs)	No limit set	Hourly mean	Monthly	

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
Emission point/s as shown on drawing reference 33012-Shr166- Figure 1 Drainage plan	Site effluent from waste processing and storage areas	No parameter set	No limit set	--	--	--
Emission point/s as shown on drawing reference 33012-Shr166- Figure 1 Drainage plan	Uncontaminated site source water from roofs and other non-operational areas	No parameter set	No limit set	--	--	--

Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Biofilter	Temperature	--	As required	Temperature probe	Biofilter shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Equipment shall be calibrated on a 4 monthly basis or as agreed in writing by the Environment Agency.
	Moisture	--	As required	None specified	
	Thatching/ compaction	--	As required	None specified	
Internal for each biopile batch during bioremediation	Temperature	--	At least weekly	Temperature probe	Monitoring equipment shall be available on site and used as required to maintain aerobic conditions and ensure compliance with this permit. Equipment shall be calibrated on a 4 monthly basis or as agreed in writing by the Environment Agency.
	Moisture	--	As required	None specified	
	pH	--	At least fortnightly	None specified	
	Oxygen	--	At least weekly	None specified	
Air testing within the building (labelled as 'dust shed') for the duration of the asbestos hand picking works and, once pre-operational condition 1 has been given written permission, at all times when the mechanical screening of waste soil is taking place.	Asbestos fibres	0.01 fibres/ml Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	During the asbestos hand picking works 1 hour at 8 l/min	In line with M17 monitoring guidance While asbestos is being treated. <ul style="list-style-type: none"> Pumped sampling 1m above ground level Flow rate = 8 litres/ minute Minimum sample volume = 480 litres Filter pore size = 0.8-1.2µm Asbestos fibre limit of detection = 0.001 fibres/ml	--

Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Sampling points as detailed in Schedule 5 response dated 29/01/18 and shown on drawing 100993 – Asbestos DWG1 dated January 2018.					
Outside air testing when asbestos contaminated soils are being received, handled and moved within the site Outside Sampling points as detailed in drawing no.100993 – Asbestos DWG3/Rev1 dated October 2020.	Asbestos fibres	0.01 fibres/ml. Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	During receipt, handling and movement of asbestos contaminated soil within the site 1 hour at 8 l/min or other agreed period in writing.	In line with M17 monitoring guidance While asbestos contaminated soils are being received, handled and moved within the site. <ul style="list-style-type: none"> Pumped sampling 1m above ground level Flow rate = 8 litres/ minute Minimum sample volume = 480 litres Filter pore size = 0.8-1.2µm Asbestos fibre limit of detection = 0.001 fibres/ml	--

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Biofilter efficiency Parameters as required by condition 3.5.1	Biofilter	Every 12 months	1 January
Asbestos fibres Parameters as required by condition 3.5.1	Air testing within the building (labelled as 'dust shed') during the asbestos hand picking works and, once pre-operational condition 1 has been given written permission, at all times when the mechanical screening of waste soil is taking place. Outside air testing when asbestos contaminated soils are being received, handled and moved within the site Internal Sampling points as detailed in Schedule 5 response dated 29/01/18 and shown on drawing 100993 – Asbestos DWG1 dated January 2018. Outside sampling points as detailed in drawing no.100993 – Asbestos DWG3/Rev1 dated October 2020.	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Annual production/treatment	
Parameter	Units
Bioremediation Plant (treatment)	Tonnes per year
Treatment of hazardous waste (total)	Tonnes per year
Treatment of non-hazardous waste (total)	Tonnes per year

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes or m ³
Energy usage	Annually	MWh

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	07/04/2016
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	07/04/2016
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	07/04/2016
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	07/04/2016
Waste returns	E-Waste Return Form	--
Asbestos Fibres	Form particle 1 or other form as agreed in writing by the Environment Agency	26/02/2018

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“hazardous property” has the meaning in Annex III of the Waste Framework Directive.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“pests” means Birds, Vermin and Insects.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, tables S2.2 and S2.3, for that those tables, they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘PCBs’ means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

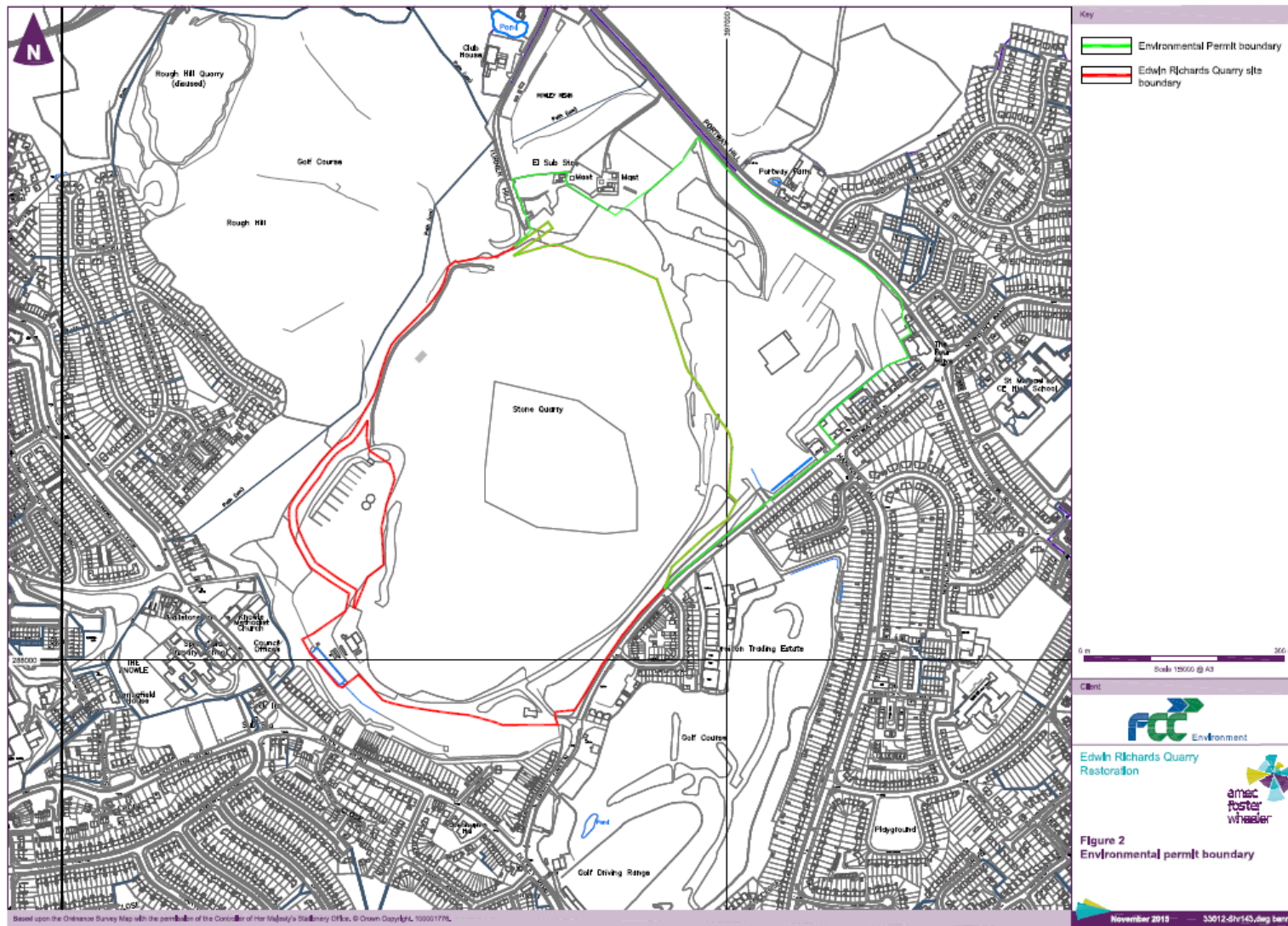
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term

Schedule 7 – Site plan



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END OF PERMIT

Permit number
EPR/HP3632RP

Notice of variation and consolidation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

West Yorkshire Treatment Centre

Chemwaste Limited
Ladywood Way
Ravensthorpe Industrial Estate
Ravensthorpe
West Yorkshire
WF13 3LN

Variation and consolidation notice
number
EPR/LP3137SU/C003

Permit number
EPR/LP3137SU

West Yorkshire Treatment Centre

Permit number EPR/LP3137SU

Introductory note

This introductory note does not form a part of the permit

This notice is to advise you of the variation of environmental permits A, B and C referred to in the status logs below and the replacement of those permits with a consolidated environmental permit.

This is an Agency initiated variation to correct some errors in permit EPR/LP3137SU and to sort out the confusion as to which activities are regulated under the IPPC EPR permit and which are under waste activity EPR permits. The main changes are:

- Consolidation of the installation permit with waste activity permits;
- Changes to the waste tables in schedule 2 to the consolidated permit so that it is clear which wastes are associated with each activity

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status Log of permit EPR/LP3137SU (Permit A)		
Detail	Date	Response Date
Application EPR/LP3137SU	Duly made 06/09/2005	
Additional Information	Requested 07/03/2006	20/03/2006
Permit determined	26/06/2006	
Agency Initiated variation started	November 2006	
Additional information	Requested 29/11/2006	30/11/2006
Additional information	Requested 06/03/2007	17/05/2007
Additional information	Requested 16/07/2007	28/08/2007
Variation notice CP3034UN issued (EPR/LP3137SU/V002)	15/10/2007	
Agency Initiated variation started	17/07/2009	
Additional information	received 06/05/2010	
Additional information	received 24/08/2010	
Additional information	Requested 03/09/2010	received 14/09/2010
Additional information	Requested 21/09/2010	received 21/09/2010
Consolidated permit issued (EPR/LP3137SU/C003)	15/10/2010	

Status Log of permit B: EPR/WML/65039 (Permit B)		
Detail	Date	Response Date
Issued	12/11/1999	
Partially superseded	26/06/2006	
Fully superseded by EPR/LP3137SU/C003	15/10/2010	

Status Log of permit C: EPR/WML/61052 (Permit C)		
Detail	Date	Response Date
Issued	23/09/1994	
Partially superseded	26/06/2006	
Fully superseded by EPR/LP3137SU/C003	15/10/2010	

End of Introductory note

Notice of variation and consolidation

Environmental Permitting
(England and Wales) Regulations 2010

Permit number

EPR/LP3137SU

The Environment Agency in exercise of its powers under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 (SI 2000 No 675) (the Regulations) varies the environmental permits as set out below and in exercise of its powers under Regulation 18 of the Regulations replaces them with a consolidated environmental permit in the form set out in schedule 2.

Permit	Site address	Type of regulated facility	Original permit number
A	Ladywood Way, Ravensthorpe Industrial Estate, Ravensthorpe, West Yorkshire. WF13 3LN	Installation	EPR/LP3137SU
B		Waste Facility	EPR/WML/65039
C		Waste Facility	EPR/WML/61052

The conditions of environmental permits A, B, C, held by:

Chemwaste Limited ("the operator"),

whose registered office is

**Ladywood Way
Ravensthorpe Industrial Estate
Ravensthorpe
West Yorkshire
WF13 3LN**

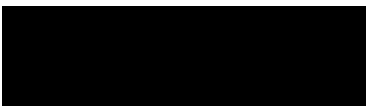
company registration number **1581771**

are varied to the extent set out in the Schedule 1 to this notice and replaced with a consolidated environmental permit in the form set out in Schedule 2.

This notice shall take effect from **15/10/2010**

Name

Date

	15th October 2010
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Authorised on behalf of the Environment Agency

Schedule 1: Variations to Environmental Permits A, B and C

Permit A: EPR/LP3137SU

All conditions were replaced with new template conditions. In addition the following changes were made:

- The descriptions of the permitted activities in table S1.1 were clarified;
- The waste types accepted for each activity were updated;
- An improvement condition relating to operation of the shredder was added;
- Information on operation of the shredder was incorporated in table S1.2;
- Reporting of annual mercury emissions was added.

Permit B: EPR/WML/65039

All conditions were replaced with new template conditions. In addition the following changes were made:

- The descriptions of the permitted activities in table S1.1 were clarified;
- The waste types accepted for each activity were updated;
- An improvement condition relating to operation of the shredder was added;
- Information on operation of the shredder was incorporated in table S1.2.

Permit C: EPR/WML/61052

All conditions were replaced with new template conditions. In addition the following changes were made:

- The descriptions of the permitted activities in table S1.1 were clarified;
- The waste types accepted for each activity were updated;
- An improvement condition relating to operation of the shredder was added.
- Information on operation of the shredder was incorporated in table S1.2.

The conditions in each of these three permits were then consolidated into one set of conditions for Permit A. Permits B & C were superseded by this consolidation

Schedule 2 – Form of consolidated environmental permit

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

- 1.2.1 For the following activities referenced in schedule 1, table S1.1 (A1 to A6). The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 For the following activities referenced in schedule 1, table S1.1 (A1 to A6). The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 For the following activities referenced in schedule 1, table S1.1 (A1 to A6). The operator shall:
- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
 - (b) review and record at least every four years whether changes to those measures should be made; and
 - (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1
- (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
 - (b) If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.3 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2.
 - (b) it conforms to the description in the documentation supplied by the producer and holder.

- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazard classification associated with the waste; and
 - (e) the waste code of the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

2.5 Technical requirements

WEEE

- 2.5.1 The storage (including temporary storage) and treatment of WEEE shall be carried out in accordance with the technical requirements of Annex III of the WEEE Directive.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Total annual emissions from the emission points set out in schedule 3 tables S3.1, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1, S3.2 and S3.3.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data..

- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.
- 4.2.2 For the following activities referenced in schedule 1, table S1.1 (A1 to A6). A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

- 4.3.1 The Environment Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
 - (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within 1 month of:
 - (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex IIA and IIB operations	Limits of specified activity and waste types
A1	S5.3 A(1)(a)	Storage and /or bulking and/ or repackaging of hazardous waste prior to disposal off site (D15) (D13) (D14)	<p>Receipt of acids, at Installation transfer to Storage Tank T12, T6 and racks C and B.</p> <p>Receipt of corrosive (alkaline) material at Installation transfer to racks A and D.</p> <p>Receipt of flammable material at Installation transfer to racks K, L and M.</p> <p>Receipt of toxic material at Installation transfer to racks G and F.</p> <p>Storage of WEEE in area labelled WEEE on site plan in schedule 7</p> <p>Receipt, storage and/or repackaging of laboratory size chemicals in laboratory smalls area and rack N.</p> <p>For storage, Hazardous Wastes as listed in Table S2.2, column 4, marked 'x'.</p> <p>For bulking, hazardous Wastes as listed in Table S2.2, column 2, marked "x".</p> <p>For repackaging, hazardous Wastes as listed in Table S2.2, column 3, marked "x".</p> <p>Maximum storage capacity of 510 tonnes at any one time</p>
A2	S5.3 A(1)(a)	Treatment of hazardous waste by physico-chemical means involving separation and/or neutralisation (D9)	<p>Transfer to treatment vessel T14, addition of lime slurry to defined pH.</p> <p>Hazardous wastes as listed in Table S2.2, column 1, marked 'x'</p> <p>Maximum treatment capacity 20,000 tonnes per year</p>
A3	S5.3 A(1)(a)	Shredding of hazardous wastes or crushing of packaging classed as hazardous waste (D9) (D15)	<p>Shredding in shredder S1 or crushing in crusher D1. Includes collection of any liquids and storage of shredded or crushed materials.</p> <p>Hazardous waste types as specified in table S2.2, column 7, marked 'x' (excluding wastes classified as H1, H3A, H3B)</p>
A4	S5.3 A(1)(a)	Shredding of non-hazardous wastes or crushing of packaging classed as non-hazardous waste (D9) (D15)	<p>Shredding of drums in shredder S1 or crushing in crusher D1. Includes collection of any liquids and storage of shredded or crushed materials.</p> <p>Includes bulking prior to the on-site shredding.</p> <p>Non-hazardous waste types as specified in table S2.2, column 7, marked 'x'</p>

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex IIA and IIB operations	Limits of specified activity and waste types
A5	S5.3 A(1)(b)	Storage, blending and separation of waste oils and oil and aqueous mixtures without applying heat (R3 and R13).	Transfer of mixture from R2 to T15 and rack Y. Drawing off lower aqueous layer to T14. Oil layer to be collected in IBCs for transfer off site. Waste types as specified in table S2 .2, column 5, marked 'x'. Maximum treatment capacity 20,000 tonnes per year
A6	S5.3 A(1)(c)(ii)	Treatment of non hazardous waste (D9)	Receipt and storage in tanks T1 to T4, racks P,R,T,W,X. Neutralisation as necessary in tank T14 and transfer to tank T5. Followed by filtration in F1 or F2. Disposal of liquids to sewer or for off- site disposal via tank T10 and T9. Filtered solids sent for landfill or for further off-site treatment. Includes bulking prior to the on-site treatment. Non hazardous waste types as specified in table S2.2, column 1, marked 'x'. Maximum treatment capacity of 45,000 tonnes per year.
	Description of activities for waste operations		Limits of activities
A7	D15 :storage of non-hazardous waste prior to removal from site for disposal by operations numbered D01 to D14 (excluding temporary storage pending collection on the site where it is produced.		Storage of waste in IBCs, drums or boxes on pallets. Storage on rack H. Storage of WEEE in area labelled WEEE on site plan in schedule 7 Non-hazardous waste types as specified in table S2.2, column 4, marked 'x'
A8	D13 : Blending or mixing of non-hazardous wastes prior to submission to any of the operations numbered D01 to D13		Non-hazardous waste types as specified in table S2.2, column 2, marked 'x'
A9	D14 : Repackaging of non-hazardous wastes prior to submissions to any of the operations numbered D01 to D13		Non-hazardous waste types as specified in table S2.2, column 3 marked 'x'
A8	R13 : Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)		Storage of hazardous and non-hazardous waste prior to recovery off site. Storage of flammable waste in racks K and L. Storage of corrosive acid waste on rack B. Storage of corrosive alkaline wastes on rack A Storage of flammable solids waste on rack M. Storage of toxic waste on rack F Storage of non hazardous wastes on rack H

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex IIA and IIB operations	Limits of specified activity and waste types
			Storage of WEEE in area labelled WEEE on site plan in schedule 7 Waste types as specified in table S2.2, column 6, marked 'X'
A9	R3: Shredding of non-hazardous waste prior to being sent for recovery		Non-hazardous waste types as specified in table S2.2, column 7, marked 'x'

Table S1.2 Operating techniques

Description	Parts	Date Received
Application	The response to section B2.1, B2.2 excluding B2.1.1 and excluding B2.2.7	06/09/2005
Response to further information request	The responses to questions 2, 3 and 4 relating to the treatment procedure	20/03/2006
Additional information	Information on operation of the shredder	14/09/2010 and 24/08/2010
Working plan 1504	Section 4.1, procedures 09, 23, 57, 27, Sections 5.1, 5.2, 5.3, 5.4, 5.5, 6.0, 7.3, 8.1, 8.3, 9.2, 9.3, 11.2.	06/02/2007
Working plan 1569	Section 4.5 (procedures 09 and 20)	31/01/2004

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
1	<p>The Operator shall submit a management plan for operation of the shredder to the Environment Agency for approval.</p> <p>The plan shall include the following:</p> <ul style="list-style-type: none"> For each waste code identified in table S2.2, column 7 provide a detailed description of the types of waste that will be shredded; For each waste type identified as suitable for shredding state the purpose of shredding it; A procedure which describes the full method for shredding including any other treatment such as draining liquids; A procedure to ensure that hazardous and non-hazardous materials will not be mixed; Details of recovery and/or disposal routes for each waste type identified as suitable for shredding. <p>The Operator shall implement the plan as approved by the Environment Agency.</p>	15/04/2011

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
-	

Table S2 .2 Permitted waste types and quantities

Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS							
01 01	wastes from mineral excavation							
01 01 01	wastes from mineral metalliferous excavation	x	x	x	x			
01 01 02	wastes from mineral non-metalliferous excavation	x	x	x	x			
01 03	wastes from physical and chemical processing of metalliferous minerals							
01 03 04*	acid-generating tailings from processing of sulphide ore	x	x	x	x			
01 03 05*	other tailings containing dangerous substances	x	x	x	x			
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05	x	x	x	x			
01 03 07*	other wastes containing dangerous substances from physical and chemical processing of metalliferous minerals	x	x	x	x			
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07		x	x	x			
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 07	x	x	x	x			
01 04	wastes from physical and chemical processing of non-metalliferous minerals							
01 04 07*	wastes containing dangerous substances from physical and chemical processing of non-metalliferous minerals	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07		x	x	x			
01 04 09	waste sand and clays		x	x	x			
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07		x	x	x			
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07	x	x	x	x			
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11	x	x	x	x			
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07	x	x	x	x			
				x				
01 05	drilling muds and other drilling wastes							
01 05 04	freshwater drilling muds and wastes	x	x	x	x		x	
01 05 05*	oil-containing drilling muds and wastes					x		
01 05 06*	drilling muds and other drilling wastes containing dangerous substances	x	x	x	x			
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06	x	x	x	x			
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06	x	x	x	x			
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING							
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing							
02 01 01	sludges from washing and cleaning	x	x	x	x		x	
02 01 03	plant-tissue waste		x	x	x		x	x
02 01 04	waste plastics (except packaging)			x	x		x	x
02 01 07	wastes from forestry	x	x		x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
02 01 08*	agrochemical waste containing dangerous substances	x	x		x			x
02 01 09	agrochemical waste other than those mentioned in 02 01 08	x	x		x			x
02 01 10	waste metal			x	x		x	
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin							
02 02 01	sludges from washing and cleaning	x	x		x		x	
02 02 04	sludges from on-site effluent treatment	x	x		x		x	
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation							
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation	x	x	x	x		x	
02 03 02	wastes from preserving agents	x	x	x	x		x	
02 03 03	wastes from solvent extraction			x	x		x	
02 03 04	materials unsuitable for consumption or processing			x	x		x	
02 03 05	sludges from on-site effluent treatment	x	x	x	x		x	
02 04	wastes from sugar processing							
02 04 01	soil from cleaning and washing beet			x	x		x	
02 04 02	off-specification calcium carbonate	x	x		x			
02 04 03	sludges from on-site effluent treatment	x	x	x	x		x	
02 05	wastes from the dairy products industry							
02 05 01	materials unsuitable for consumption or processing			x	x		x	
02 05 02	sludges from on-site effluent treatment	x	x	x	x		x	
02 06	wastes from the baking and confectionery industry							
02 06 01	materials unsuitable for consumption or processing	x	x	x	x		x	
02 06 02	wastes from preserving agents	x	x	x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
02 06 03	sludges from on-site effluent treatment	x	x	x	x		x	
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)							
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials	x	x	x	x		x	
02 07 02	wastes from spirits distillation			x	x		x	
02 07 03	wastes from chemical treatment	x	x	x	x			
02 07 04	materials unsuitable for consumption or processing			x	x		x	
02 07 05	sludges from on-site effluent treatment	x	x		x			
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD							
03 01	wastes from wood processing and the production of panels and furniture							
03 01 01	waste bark and cork			x	x		x	
03 01 04*	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances			x	x		x	
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04			x	x		x	
03 02	wastes from wood preservation							
03 02 01*	non-halogenated organic wood preservatives			x	x			
03 02 02*	organochlorinated wood preservatives			x	x			
03 02 03*	organometallic wood preservatives			x	x			
03 02 04*	inorganic wood preservatives			x	x			
03 02 05*	other wood preservatives containing dangerous substances			x	x			
03 03	wastes from pulp, paper and cardboard production and processing							
03 03 01	waste bark and wood			x	x		x	
03 03 02	green liquor sludge (from recovery of cooking liquor)	x	x	x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
03 03 05	de-inking sludges from paper recycling	x	x	x	x		x	
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard			x	x		x	
03 03 08	wastes from sorting of paper and cardboard destined for recycling			x	x		x	
03 03 09	lime mud waste	x	x	x	x		x	
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation	x	x	x	x		x	
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10	x	x	x	x		x	
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES							
04 01	wastes from the leather and fur industry							
04 01 02	liming waste	x	x	x	x		x	
04 01 03*	degreasing wastes containing solvents without a liquid phase			x	x			
04 01 04	tanning liquor containing chromium	x	x	x	x			
04 01 05	tanning liquor free of chromium	x	x	x	x			
04 01 06	sludges, in particular from on-site effluent treatment containing chromium	x	x	x	x			
04 01 07	sludges, in particular from on-site effluent treatment free of chromium	x	x	x	x			
04 01 09	wastes from dressing and finishing	x	x	x	x			
04 02	wastes from the textile industry							
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)		x	x	x		x	x
04 02 10	organic matter from natural products (for example grease, wax)		x	x	x			
04 02 14*	wastes from finishing containing organic solvents			x	x			
04 02 15	wastes from finishing other than those mentioned in 04 02 14	x	x	x	x		x	
04 02 16*	dyestuffs and pigments containing dangerous substances	x	x	x	x			
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16	x	x	x	x		x	
04 02 19*	sludges from on-site effluent treatment containing dangerous substances	x	x	x	x			
04 02 20	Sludges from on-site effluent treatment other than those mentioned in 04 02 19	x	x	x	x		x	
04 02 21	wastes from unprocessed textile fibres	x	x	x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
04 02 22	wastes from processed textile fibres	x	x	x	x		x	
05	WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL							
05 01	wastes from petroleum refining							
05 01 02*	desalter sludges	x	x	x	x			
05 01 03*	tank bottom sludges	x	x	x	x			
05 01 04*	acid alkyl sludges	x	x	x	x			
05 01 05*	oil spills					x		
05 01 06*	oily sludges from maintenance operations of the plant or equipment					x		
05 01 07*	acid tars			x	x			
05 01 08*	other tars			x	x			
05 01 09*	sludges from on-site effluent treatment containing dangerous substances	x	x	x	x		x	
05 01 10	Sludges from on-site effluent treatment other than those mentioned in 05 01 09	x	x	x	x		x	
05 01 11*	wastes from cleaning of fuels with bases	x	x	x	x			
05 01 12*	oil containing acids					x		
05 01 13	boiler feedwater sludges	x	x	x	x			
05 01 14	wastes from cooling columns	x	x	x	x			
05 01 15*	spent filter clays			x	x			
05 01 16	sulphur-containing wastes from petroleum desulphurisation			x	x			
05 01 17	bitumen			x	x			
05 06	wastes from the pyrolytic treatment of coal							
05 06 01*	acid tars			x	x			
05 06 03*	other tars			x	x			
05 06 04	waste from cooling columns	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
05 07	wastes from natural gas purification and transportation							
05 07 01*	wastes containing mercury			x	x		x	
05 07 02	wastes containing sulphur			x	x			
06	WASTES FROM INORGANIC CHEMICAL PROCESSES							
06 01	wastes from the manufacture, formulation, supply and use (MFSU) of acids							
06 01 01*	sulphuric acid and sulphurous acid	x	x	x	x			
06 01 02*	hydrochloric acid	x	x	x	x			
06 01 03*	hydrofluoric acid	x	x	x	x			
06 01 04*	phosphoric and phosphorous acid	x	x	x	x			
06 01 05*	nitric acid and nitrous acid	x	x	x	x			
06 01 06*	other acids	x	x	x	x			
06 02	wastes from the MFSU of bases							
06 02 01*	calcium hydroxide	x	x	x	x			
06 02 03*	ammonium hydroxide	x	x	x	x			
06 02 04*	sodium and potassium hydroxide	x	x	x	x			
06 02 05*	other bases	x	x	x	x			
06 03	wastes from the MFSU of salts and their solutions and metallic oxides							
06 03 11*	solid salts and solutions containing cyanides			x	x			
06 03 13*	solid salts and solutions containing heavy metals			x	x			
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13	x	x	x	x			
06 03 15*	metallic oxides containing heavy metals			x	x			
06 03 16	metallic oxides other than those mentioned in 06 03 15	x	x	x	x			
06 04	metal-containing wastes other than those mentioned in 06 03							
06 04 03*	wastes containing arsenic			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
06 04 04*	wastes containing mercury			X	X		X	
06 04 05*	wastes containing other heavy metals			X	X			
06 05	sludges from on-site effluent treatment							
06 05 02*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02	X	X	X	X			
06 06	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes							
06 06 02*	wastes containing dangerous sulphides			X	X			
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02	X	X	X	X		X	
06 07	wastes from the MFSU of halogens and halogen chemical processes							
06 07 01*	wastes containing asbestos from electrolysis				X			
06 07 02*	activated carbon from chlorine production			X	X		X	
06 07 03*	barium sulphate sludge containing mercury			X	X			
06 07 04*	solutions and acids, for example contact acid			X	X			
06 08	wastes from the MFSU of silicon and silicon derivatives							
06 08 02	wastes containing dangerous silicones			X	X			
06 09	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes							
06 09 02	phosphorous slag			X	X			
06 09 03*	calcium-based reaction wastes containing or contaminated with dangerous substances			X	X			
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03			X	X			
06 10	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture							
06 10 02*	wastes containing dangerous substances	X	X	X	X			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
06 11	wastes from the manufacture of inorganic pigments and opacifiers							
06 11 01	calcium-based reaction wastes from titanium dioxide production	x	x	x	x			
06 13	wastes from inorganic chemical processes not otherwise specified							
06 13 01*	inorganic plant protection products, wood-preserving agents and other biocides.			x	x			
06 13 02*	spent activated carbon (except 06 07 02)			x	x			
06 13 03	carbon black			x	x		x	
06 13 04*	wastes from asbestos processing				x			
06 13 05*	soot			x	x			
07	WASTES FROM ORGANIC CHEMICAL PROCESSES							
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals							
07 01 01*	aqueous washing liquids and mother liquors	x	x	x	x			
07 01 03*	organic halogenated solvents, washing liquids and mother liquors			x	x			
07 01 04*	other organic solvents, washing liquids and mother liquors			x	x			
07 01 07*	halogenated still bottoms and reaction residues			x	x			
07 01 08*	other still bottoms and reaction residues	x	x	x	x			
07 01 09*	halogenated filter cakes and spent absorbents			x	x			
07 01 10*	other filter cakes and spent absorbents			x	x			
07 01 11*	sludges from on-site effluent treatment containing dangerous substances	x	x	x	x			
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11	x	x	x	x			
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres							
07 02 01*	aqueous washing liquids and mother liquors	x	x	x	x			
07 02 03*	organic halogenated solvents, washing liquids and mother liquors			x	x			
07 02 04*	other organic solvents, washing liquids and mother liquors			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
07 02 07*	halogenated still bottoms and reaction residues			X	X			
07 02 08*	other still bottoms and reaction residues	X	X	X	X			
07 02 09*	halogenated filter cakes and spent absorbents			X	X			
07 02 10*	other filter cakes and spent absorbents			X	X			
07 02 11*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11	X	X	X	X			
07 02 13	waste plastic			X	X		X	X
07 02 14*	wastes from additives containing dangerous substances	X	X	X	X			
07 02 15	wastes from additives other than those mentioned in 07 02 14	X	X	X	X			
07 02 16	wastes containing silicones	X	X	X	X			
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)							
07 03 01*	aqueous washing liquids and mother liquors	X	X	X	X			
07 03 03*	organic halogenated solvents, washing liquids and mother liquors			X	X		X	
07 03 04*	other organic solvents, washing liquids and mother liquors			X	X		X	
07 03 07*	halogenated still bottoms and reaction residues			X	X			
07 03 08*	other still bottoms and reaction residues			X	X			
07 03 09*	halogenated filter cakes and spent absorbents			X	X			
07 03 10*	other filter cakes and spent absorbents			X	X			
07 03 11*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11	X	X	X	X			
07 04	wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides							
07 04 01*	aqueous washing liquids and mother liquors	X	X	X	X			
07 04 03*	organic halogenated solvents, washing liquids and mother liquors		X	X	X		X	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
07 04 04*	other organic solvents, washing liquids and mother liquors			X	X		X	
07 04 07*	halogenated still bottoms and reaction residues			X	X			
07 04 08*	other still bottoms and reaction residues			X	X			
07 04 09*	halogenated filter cakes and spent absorbents			X	X			
07 04 10*	other filter cakes and spent absorbents			X	X			
07 04 11*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11	X	X	X	X			
07 04 13*	solid wastes containing dangerous substances			X	X			
07 05	wastes from the MFSU of pharmaceuticals							
07 05 01*	aqueous washing liquids and mother liquors	X	X	X	X			
07 05 03*	organic halogenated solvents, washing liquids and mother liquors			X	X		X	
07 05 04*	other organic solvents, washing liquids and mother liquors			X	X		X	
07 05 07*	halogenated still bottoms and reaction residues			X	X			
07 05 08*	other still bottoms and reaction residues			X	X			
07 05 09*	halogenated filter cakes and spent absorbents			X	X			
07 05 10*	other filter cakes and spent absorbents			X	X			
07 05 11*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11	X	X	X	X			
07 05 13*	solid wastes containing dangerous substances			X	X			
07 05 14	solid wastes other than those mentioned in 07 05 13			X	X		X	
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics							
07 06 01*	aqueous washing liquids and mother liquors	X	X	X	X			
07 06 03*	organic halogenated solvents, washing liquids and mother liquors			X	X		X	
07 06 04*	other organic solvents, washing liquids and mother liquors			X	X		X	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
07 06 07*	halogenated still bottoms and reaction residues			X	X			
07 06 08*	other still bottoms and reaction residues			X	X			
07 06 09*	halogenated filter cakes and spent absorbents			X	X			
07 06 10*	other filter cakes and spent absorbents			X	X			
07 06 11*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11	X	X	X	X		X	
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified							
07 07 01*	aqueous washing liquids and mother liquors	X	X	X	X			
07 07 03*	organic halogenated solvents, washing liquids and mother liquors			X	X		X	
07 07 04*	other organic solvents, washing liquids and mother liquors			X	X		X	
07 07 07*	halogenated still bottoms and reaction residues			X	X			
07 07 08*	other still bottoms and reaction residues			X	X			
07 07 09*	halogenated filter cakes and spent absorbents			X	X			
07 07 10*	other filter cakes and spent absorbents			X	X			
07 07 11*	sludges from on-site effluent treatment containing dangerous substances	X	X	X	X			
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11	X	X	X	X		X	
08	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS							
08 01	wastes from MFSU and removal of paint and varnish							
08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances			X	X		X	
08 01 12	waste paint and varnish other than those mentioned in 08 01 11		X	X	X		X	
08 01 13*	sludges from paint or varnish containing organic solvents or other dangerous substances			X	X		X	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13	x	x	x	x		x	
08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances			x	x		x	
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15	x	x	x	x			
08 01 17*	wastes from paint or varnish removal containing organic solvents or other dangerous substances			x	x		x	
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17	x	x	x	x			
08 01 19*	aqueous suspensions containing paint or varnish containing organic solvents or other dangerous substances			x	x		x	
08 01 20	aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19	x	x	x	x		x	
08 01 21*	waste paint or varnish remover			x	x		x	
08 02	wastes from MFSU of other coatings (including ceramic materials)							
08 02 01	waste coating powders			x	x		x	
08 02 02	aqueous sludges containing ceramic materials	x	x	x	x			
08 02 03	aqueous suspensions containing ceramic materials	x	x	x	x			
08 03	wastes from MFSU of printing inks							
08 03 07	aqueous sludges containing ink	x	x	x	x			
08 03 08	aqueous liquid waste containing ink	x	x	x	x		x	
08 03 12*	waste ink containing dangerous substances			x	x		x	
08 03 13	waste ink other than those mentioned in 08 03 12	x	x	x	x			
08 03 14*	ink sludges containing dangerous substances			x	x		x	
08 03 15	ink sludges other than those mentioned in 08 03 14	x	x	x	x			
08 03 16*	waste etching solutions	x	x	x	x			
08 03 17*	waste printing toner containing dangerous substances			x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
08 03 18	waste printing toner other than those mentioned in 08 03 17	x	x	x	x			
08 03 19*	disperse oil					x		
08 04	wastes from MFSU of adhesives and sealants (including waterproofing products)							
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances			x	x		x	
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09	x	x	x	x			
08 04 11*	adhesive and sealant sludges containing organic solvents or other dangerous substances			x	x		x	
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11			x	x			
08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other dangerous substances			x	x		x	
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13	x	x	x	x			
08 04 15*	aqueous liquid waste containing adhesives or sealants containing organic solvents or other dangerous substances			x	x		x	
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15	x	x	x	x			
08 04 17*	rosin oil			x	x		x	
08 05	wastes not otherwise specified in 08							
08 05 01*	waste isocyanates			x	x			
09	WASTES FROM THE PHOTOGRAPHIC INDUSTRY							
09 01	wastes from the photographic industry							
09 01 01*	water-based developer and activator solutions	x	x	x	x			
09 01 02*	water-based offset plate developer solutions	x	x	x	x			
09 01 03*	solvent-based developer solutions			x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
09 01 04*	fixer solutions	x	x	x	x			
09 01 05*	bleach solutions and bleach fixer solutions			x	x			
09 01 06*	wastes containing silver from on-site treatment of photographic wastes			x	x		x	
09 01 07	photographic film and paper containing silver or silver compounds			x	x			
09 01 08	photographic film and paper free of silver or silver compounds			x	x			
09 01 13*	aqueous liquid waste from on-site reclamation of silver other than those mentioned in 09 01 06	x	x	x	x			
10	WASTES FROM THERMAL PROCESSES							
10 01	wastes from power stations and other combustion plants (except 19)							
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)			x	x			
10 01 02	coal fly ash			x	x			
10 01 03	fly ash from peat and untreated wood			x	x			
10 01 04*	oil fly ash and boiler dust			x	x			
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form	x	x	x	x			
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form	x	x	x	x			
10 01 09*	sulphuric acid	x	x	x	x			
10 01 13*	fly ash from emulsified hydrocarbons used as fuel			x	x			
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing dangerous substances			x	x			
10 01 15	Bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14			x	x			
10 01 16*	fly ash from co-incineration containing dangerous substances			x	x			
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16			x	x			
10 01 18*	wastes from gas cleaning containing dangerous substances			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18			x	x			
10 01 20*	sludges from on-site effluent treatment containing dangerous substances	x	x	x	x			
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20	x	x	x	x		x	
10 01 22*	aqueous sludges from boiler cleansing containing dangerous substances	x	x	x	x			
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22	x	x	x	x		x	
10 01 24	sands from fluidised beds			x	x			
10 01 25	wastes from fuel storage and preparation of coal-fired power plants			x	x			
10 01 26	wastes from cooling-water treatment	x	x	x	x			
10 02	wastes from the iron and steel industry							
10 02 07*	solid wastes from gas treatment containing dangerous substances			x	x			
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07			x	x			
10 02 10	mill scales			x	x			
10 02 11*	wastes from cooling-water treatment containing oil					x		
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11	x	x	x	x		x	
10 02 13*	sludges and filter cakes from gas treatment containing dangerous substances	x	x	x	x			
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13	x	x	x	x		x	
10 02 15	other sludges and filter cakes			x	x		x	
10 03	wastes from aluminium thermal metallurgy							
10 03 02	anode scraps						x	
10 03 05	waste alumina			x	x			
10 03 08*	salt slags from secondary production			x	x			
10 03 09*	black drosses from secondary production			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 03 15*	skimmings that are flammable or emit, upon contact with water, flammable gases in dangerous quantities			x	x			
10 03 16	skimmings other than those mentioned in 10 03 15			x	x			
10 03 17*	tar-containing wastes from anode manufacture			x	x			
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17			x	x			
10 03 19*	flue-gas dust containing dangerous substances			x	x			
10 03 20	flue-gas dust other than those mentioned in 10 03 19			x	x			
10 03 21*	other particulates and dust (including ball-mill dust) containing dangerous substances			x	x			
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21			x	x			
10 03 23*	solid wastes from gas treatment containing dangerous substances			x	x			
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23			x	x			
10 03 25*	sludges and filter cakes from gas treatment containing dangerous substances	x	x	x	x			
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25	x	x	x	x			
10 03 27*	wastes from cooling-water treatment containing oil					x		
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27	x	x	x	x			
10 03 29*	wastes from treatment of salt slags and black drosses containing dangerous substances	x	x	x	x			
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29	x	x	x	x			
10 04	wastes from lead thermal metallurgy							
10 04 01*	slags from primary and secondary production		x		x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 04 02*	dross and skimmings from primary and secondary production		x		x		x	
10 04 04*	flue-gas dust		x		x			
10 04 05*	other particulates and dust		x		x			
10 04 06*	solid wastes from gas treatment		x		x			
10 04 07*	sludges and filter cakes from gas treatment	x	x		x			
10 04 09*	wastes from cooling-water treatment containing oil					x		
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09	x	x		x			
10 05	wastes from zinc thermal metallurgy							
10 05 01	slags from primary and secondary production				x			
10 05 03*	flue-gas dust				x			
10 05 04	other particulates and dust				x			
10 05 05*	solid waste from gas treatment				x			
10 05 06*	sludges and filter cakes from gas treatment		x	x	x			
10 05 08*	wastes from cooling-water treatment containing oil					x		
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08			x	x			
10 05 10*	dross and skimmings that are flammable or emit, upon contact with water, flammable gases in dangerous quantities			x	x			
10 05 11	dross and skimmings other than those mentioned in 10 05 10		x	x	x			
10 06	wastes from copper thermal metallurgy							
10 06 01	slags from primary and secondary production			x	x		x	
10 06 02	dross and skimmings from primary and secondary production			x	x		x	
10 06 03*	flue-gas dust			x	x			
10 06 04	other particulates and dust			x	x			
10 06 06*	solid wastes from gas treatment			x	x			
10 06 07*	sludges and filter cakes from gas treatment	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 06 09*	wastes from cooling-water treatment containing oil					x		
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09	x	x	x	x			
10 07	wastes from silver, gold and platinum thermal metallurgy							
10 07 01	slags from primary and secondary production			x	x		x	
10 07 02	dross and skimmings from primary and secondary production			x	x		x	
10 07 03	solid wastes from gas treatment			x	x			
10 07 04	other particulates and dust			x	x			
10 07 05	sludges and filter cakes from gas treatment			x	x			
10 07 07*	wastes from cooling-water treatment containing oil					x		
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07	x	x	x	x			
10 08	wastes from other non-ferrous thermal metallurgy							
10 08 04	particulates and dust			x	x		x	
10 08 08*	salt slag from primary and secondary production			x	x		x	
10 08 09	other slags			x	x		x	
10 08 10*	dross and skimmings that are flammable or emit, upon contact with water, flammable gases in dangerous quantities			x	x		x	
10 08 11	dross and skimmings other than those mentioned in 10 08 10			x	x		x	
10 08 12*	tar-containing wastes from anode manufacture			x	x			
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12			x	x			
10 08 14	anode scrap			x	x		x	
10 08 15*	flue-gas dust containing dangerous substances			x	x			
10 08 16	flue-gas dust other than those mentioned in 10 08 15			x	x			
10 08 17*	sludges and filter cakes from flue-gas treatment containing dangerous substances	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17	x	x	x	x			
10 08 19*	wastes from cooling-water treatment containing oil					x		
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19	x	x	x	x			
10 09	wastes from casting of ferrous pieces							
10 09 09*	flue-gas dust containing dangerous substances			x	x			
10 09 10	flue-gas dust other than those mentioned in 10 09 09			x	x			
10 09 11*	other particulates containing dangerous substances			x	x			
10 09 12	other particulates other than those mentioned in 10 09 11			x	x			
10 09 13*	waste binders containing dangerous substances	x	x	x	x			
10 09 14	waste binders other than those mentioned in 10 09 13	x	x	x	x			
10 09 15*	waste crack-indicating agent containing dangerous substances	x	x	x	x			
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15	x	x	x	x			
10 10	wastes from casting of non-ferrous pieces							
10 10 09*	flue-gas dust containing dangerous substances			x	x			
10 10 10	flue-gas dust other than those mentioned in 10 10 09			x	x			
10 10 11*	other particulates containing dangerous substances			x	x			
10 10 12	other particulates other than those mentioned in 10 10 11			x	x			
10 10 13*	waste binders containing dangerous substances	x	x	x	x			
10 10 14	waste binders other than those mentioned in 10 10 13	x	x	x	x			
10 10 15*	waste crack-indicating agent containing dangerous substances	x	x	x	x			
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15	x	x	x	x			
10 11	wastes from manufacture of glass and glass products							
10 11 03	waste glass-based fibrous materials			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 11 05	particulates and dust			X	X			
10 11 09*	waste preparation mixture before thermal processing, containing dangerous substances	X	X	X	X			
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09	X	X	X	X			
10 11 11*	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)			X	X			
10 11 12	waste glass other than those mentioned in 10 11 11			X	X			X
10 11 13*	glass-polishing and -grinding sludge containing dangerous substances	X	X	X	X			
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13	X	X	X	X			
10 11 15*	solid wastes from flue-gas treatment containing dangerous substances			X	X			
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15			X	X			
10 11 17*	sludges and filter cakes from flue-gas treatment containing dangerous substances	X	X	X	X			
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17	X	X	X	X			
10 11 19*	solid wastes from on-site effluent treatment containing dangerous substances			X	X			
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19			X	X			
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products							
10 12 01	waste preparation mixture before thermal processing	X	X	X	X			
10 12 03	particulates and dust			X	X			
10 12 05	sludges and filter cakes from gas treatment	X	X	X	X			
10 12 06	discarded moulds			X	X			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)			x	x			
10 12 09*	solid wastes from gas treatment containing dangerous substances			x	x			
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09			x	x			x
10 12 11*	wastes from glazing containing heavy metals	x	x	x	x			
10 12 12	wastes from glazing other than those mentioned in 10 12 11	x	x	x	x			
10 12 13	sludge from on-site effluent treatment	x	x	x	x			
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them							
10 13 01	waste preparation mixture before thermal processing	x	x	x	x			
10 13 04	wastes from calcination and hydration of lime	x	x	x	x			
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)			x	x			
10 13 07	sludges and filter cakes from gas treatment		x	x	x			
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10			x	x			
10 13 12*	solid wastes from gas treatment containing dangerous substances			x	x			
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12			x	x			x
10 13 14	waste concrete and concrete sludge			x	x			
10 14	waste from crematoria							
10 14 01*	waste from gas cleaning containing mercury			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
11	WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY							
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)							
11 01 05*	pickling acids	x	x	x	x			
11 01 06*	acids not otherwise specified	x	x	x	x			
11 01 07*	pickling bases	x	x	x	x			
11 01 08*	phosphatising sludges	x	x	x	x			
11 01 09*	sludges and filter cakes containing dangerous substances	x	x	x	x			
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09	x	x	x	x			
11 01 11*	aqueous rinsing liquids containing dangerous substances	x	x	x	x			
11 01 12	aqueous rinsing liquids other than those mentioned in 11 01 11		x	x	x			
11 01 13*	degreasing wastes containing dangerous substances			x	x			
11 01 14	degreasing wastes other than those mentioned in 11 01 13			x	x			
11 01 15*	eluate and sludges from membrane systems or ion exchange systems containing dangerous substances	x	x	x	x			
11 01 16*	saturated or spent ion exchange resins			x	x			
11 01 98*	other wastes containing dangerous substances	x	x	x	x			
11 02	wastes from non-ferrous hydrometallurgical processes							
11 02 02*	sludges from zinc hydrometallurgy (including jarosite, goethite)			x	x		x	
11 02 03	wastes from the production of anodes for aqueous electrolytical processes			x	x		x	
11 02 05*	wastes from copper hydrometallurgical processes containing dangerous substances			x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05	x	x	x	x		x	
11 02 07*	other wastes containing dangerous substances	x	x	x	x		x	
11 03	sludges and solids from tempering processes							
11 03 01*	wastes containing cyanide			x	x			
11 03 02*	other wastes			x	x			
11 05	wastes from hot galvanising processes							
11 05 01	hard zinc						x	
11 05 02	zinc ash				x		x	
11 05 03*	solid wastes from gas treatment				x		x	
11 05 04*	spent flux				x		x	
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS							
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics							
12 01 01	ferrous metal filings and turnings			x	x		x	
12 01 02	ferrous metal dust and particles			x	x		x	
12 01 03	non-ferrous metal filings and turnings			x	x		x	
12 01 04	non-ferrous metal dust and particles			x	x		x	
12 01 05	plastics shavings and turnings			x	x		x	
12 01 06*	mineral-based machining oils containing halogens (except emulsions and solutions)					x		
12 01 07*	mineral-based machining oils free of halogens (except emulsions and solutions)					x		
12 01 08*	machining emulsions and solutions containing halogens					x		
12 01 09*	machining emulsions and solutions free of halogens					x		

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
12 01 10*	synthetic machining oils					X		
12 01 12*	spent waxes and fats			X	X		X	
12 01 13	welding wastes			X	X		X	
12 01 14*	machining sludges containing dangerous substances			X	X	X	X	
12 01 15	machining sludges other than those mentioned in 12 01 14			X	X	X	X	
12 01 16*	waste blasting material containing dangerous substances			X	X		X	
12 01 17	waste blasting material other than those mentioned in 12 01 16			X	X		X	
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil					X		
12 01 19*	readily biodegradable machining oil					X		
12 01 20*	spent grinding bodies and grinding materials containing dangerous substances			X	X			
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20			X	X			
12 03	wastes from water and steam degreasing processes (except 11)							
12 03 01*	aqueous washing liquids	X	X	X	X			
12 03 02*	steam degreasing wastes	X	X	X	X			
13	OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)							
13 01	waste hydraulic oils							
13 01 01*	hydraulic oils, containing PCBs			X	X			
13 01 04*	chlorinated emulsions					X		
13 01 05*	non-chlorinated emulsions					X		
13 01 09*	mineral-based chlorinated hydraulic oils					X		
13 01 10*	mineral based non-chlorinated hydraulic oils					X		
13 01 11*	synthetic hydraulic oils					X		

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
13 01 12*	readily biodegradable hydraulic oils					x		
13 01 13*	other hydraulic oils					x		
13 02	waste engine, gear and lubricating oils							
13 02 04*	mineral-based chlorinated engine, gear and lubricating oils					x		
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils					x		
13 02 06*	synthetic engine, gear and lubricating oils					x		
13 02 07*	readily biodegradable engine, gear and lubricating oils					x		
13 02 08*	other engine, gear and lubricating oils					x		
13 03	waste insulating and heat transmission oils							
13 03 01*	insulating or heat transmission oils containing PCBs			x	x			
13 03 06*	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01					x		
13 03 07*	mineral-based non-chlorinated insulating and heat transmission oils					x		
13 03 08*	synthetic insulating and heat transmission oils					x		
13 03 09*	readily biodegradable insulating and heat transmission oils					x		
13 03 10*	other insulating and heat transmission oils					x		
13 04	bilge oils							
13 04 01*	bilge oils from inland navigation					x		
13 04 02*	bilge oils from jetty sewers					x		
13 04 03*	bilge oils from other navigation					x		
13 05	oil/water separator contents							
13 05 01*	solids from grit chambers and oil/water separators					x		
13 05 02*	sludges from oil/water separators					x		
13 05 03*	interceptor sludges					x		
13 05 06*	oil from oil/water separators					x		

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
13 05 07*	oily water from oil/water separators					X		
13 05 08*	mixtures of wastes from grit chambers and oil/water separators					X		
13 07	wastes of liquid fuels							
13 07 01*	fuel oil and diesel		X	X	X	X		
13 07 02*	petrol			X	X	X		
13 07 03*	other fuels (including mixtures)		X	X	X	X		
13 08	oil wastes not otherwise specified							
13 08 01*	desalter sludges or emulsions					X		
13 08 02*	other emulsions					X		
14	WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (except 07 and 08)							
14 06	waste organic solvents, refrigerants and foam/aerosol propellants							
14 06 01*	chlorofluorocarbons, HCFC, HFC			X	X		X	
14 06 02*	other halogenated solvents and solvent mixtures			X	X		X	
14 06 03*	other solvents and solvent mixtures			X	X		X	
14 06 04*	sludges or solid wastes containing halogenated solvents			X	X		X	
14 06 05*	sludges or solid wastes containing other solvents			X	X		X	
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED							
15 01	packaging (including separately collected municipal packaging waste)							
15 01 01	paper and cardboard packaging			X	X		X	X
15 01 02	plastic packaging			X	X		X	X
15 01 03	wooden packaging			X	X		X	X
15 01 04	metallic packaging			X	X		X	X
15 01 05	composite packaging			X	X		X	X

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
15 01 06	mixed packaging			X	X		X	X
15 01 07	glass packaging			X	X		X	X
15 01 09	textile packaging			X	X		X	X
15 01 10*	packaging containing residues of or contaminated by dangerous substances			X	X		X	X
15 01 11*	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers				X		X	X
15 02	absorbents, filter materials, wiping cloths and protective clothing							
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances			X	X		X	
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02			X	X		X	
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST							
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)							
16 01 03	end-of-life tyres			X	X			
16 01 07*	oil filters			X	X			
16 01 08*	components containing mercury			X	X			
16 01 09*	components containing PCBs			X	X			
16 01 11*	brake pads containing asbestos				X			
16 01 12	brake pads other than those mentioned in 16 01 11			X	X			
16 01 13*	brake fluids			X	X			
16 01 14*	antifreeze fluids containing dangerous substances	X	X	X	X			
16 01 15	antifreeze fluids other than those mentioned in 16 01 14	X	X	X	X			
16 01 16	tanks for liquefied gas			X	X			
16 01 17	ferrous metal			X	X		X	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
16 01 18	non-ferrous metal			x	x		x	
16 01 19	plastic			x	x		x	x
16 01 20	glass			x	x		x	x
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14			x	x			
16 01 22	components not otherwise specified			x	x			
16 02	wastes from electrical and electronic equipment							
16 02 09*	transformers and capacitors containing PCBs			x	x			
16 02 10*	discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09			x	x			
16 02 11*	discarded equipment containing chlorofluorocarbons, HCFC, HFC			x	x			
16 02 12*	discarded equipment containing free asbestos				x			
16 02 13*	discarded equipment containing hazardous components (2) other than those mentioned in 16 02 09 to 16 02 12			x	x		x	
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13			x	x		x	x
16 02 15*	hazardous components removed from discarded equipment			x	x		x	
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15			x	x		x	
16 03	off-specification batches and unused products							
16 03 03*	inorganic wastes containing dangerous substances	x	x	x	x		x	x
16 03 04	inorganic wastes other than those mentioned in 16 03 03	x	x	x	x		x	x
16 03 05*	organic wastes containing dangerous substances	x	x	x	x		x	x
16 03 06	organic wastes other than those mentioned in 16 03 05	x	x	x	x		x	x
16 05	gases in pressure containers and discarded chemicals							
16 05 04*	gases in pressure containers (including halons) containing dangerous substances			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
16 05 05	gases in pressure containers other than those mentioned in 16 05 04			x	x			
16 05 06*	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals		x	x	x			
16 05 07*	discarded inorganic chemicals consisting of or containing dangerous substances	x	x	x	x			
16 05 08*	discarded organic chemicals consisting of or containing dangerous substances		x	x	x			
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08		x	x	x		x	
16 06	batteries and accumulators							
16 06 01*	lead batteries						x	
16 06 02*	Ni-Cd batteries						x	
16 06 03*	mercury-containing batteries						x	
16 06 04	alkaline batteries (except 16 06 03)						x	
16 06 05	other batteries and accumulators						x	
16 06 06*	separately collected electrolyte from batteries and accumulators			x	x		x	
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)							
16 07 08*	wastes containing oil					x		
16 07 09*	wastes containing other dangerous substances	x	x	x	x			
16 08	spent catalysts							
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)			x	x		x	
16 08 02*	spent catalysts containing dangerous transition metals (3) or dangerous transition metal compounds			x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified			x	x		x	
16 08 04	spent fluid catalytic cracking catalysts (except 16 08 07)	x	x	x	x		x	
16 08 05*	spent catalysts containing phosphoric acid	x	x	x	x		x	
16 08 06*	spent liquids used as catalysts	x	x	x	x		x	
16 08 07*	spent catalysts contaminated with dangerous substances		x	x	x		x	
16 09	oxidising substances							
16 09 01*	permanganates, for example potassium permanganate			x	x			
16 09 02*	chromates, for example potassium chromate, potassium or sodium dichromate			x	x			
16 09 03*	peroxides, for example hydrogen peroxide			x	x			
16 09 04*	oxidising substances, not otherwise specified			x	x			
16 10	aqueous liquid wastes destined for off-site treatment							
16 10 01*	aqueous liquid wastes containing dangerous substances	x	x		x			
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	x	x		x		x	
16 10 03*	aqueous concentrates containing dangerous substances	x	x		x			
16 10 04	aqueous concentrates other than those mentioned in 16 10 03	x	x		x		x	
16 11	waste linings and refractories							
16 11 01*	carbon-based linings and refractories from metallurgical processes containing dangerous substances			x	x		x	
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01,			x	x		x	
16 11 03*	other linings and refractories from metallurgical processes containing dangerous substances			x	x		x	
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03			x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
16 11 05*	linings and refractories from non-metallurgical processes containing dangerous substances			x	x		x	
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05			x	x		x	
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)							
17 01	concrete, bricks, tiles and ceramics							
17 01 01	concrete			x	x			
17 01 02	bricks			x	x			
17 01 03	tiles and ceramics			x	x			
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances			x	x			
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06			x	x			
17 02	wood, glass and plastic							
17 02 01	wood			x			x	x
17 02 02	glass			x			x	x
17 02 03	plastic			x	x		x	x
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances			x	x		x	
17 03	bituminous mixtures, coal tar and tarred products							
17 03 01*	bituminous mixtures containing coal tar			x	x			
17 03 02	bituminous mixtures other than those mentioned in 17 03 01			x	x			
17 03 03*	coal tar and tarred products			x	x			
17 04	metals (including their alloys)							
17 04 01	copper, bronze, brass						x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
17 04 02	aluminium						x	
17 04 03	lead						x	
17 04 04	zinc						x	
17 04 05	iron and steel						x	
17 04 06	tin						x	
17 04 07	mixed metals						x	
17 04 09*	metal waste contaminated with dangerous substances						x	
17 04 10*	cables containing oil, coal tar and other dangerous substances						x	
17 04 11	cables other than those mentioned in 17 04 10						x	
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil							
17 05 03*	soil and stones containing dangerous substances			x	x			
17 05 04	soil and stones other than those mentioned in 17 05 03			x	x			
17 05 05*	dredging spoil containing dangerous substances			x	x			
17 05 06	dredging spoil other than those mentioned in 17 05 05			x	x		x	
17 05 07*	track ballast containing dangerous substances			x	x			
17 05 08	track ballast other than those mentioned in 17 05 07			x	x		x	
17 06	insulation materials and asbestos-containing construction materials							
17 06 01*	insulation materials containing asbestos				x			
17 06 03*	other insulation materials consisting of or containing dangerous substances			x	x			
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03			x	x			
17 06 05*	construction materials containing asbestos				x			
17 08	gypsum-based construction material							
17 08 01*	gypsum-based construction materials contaminated with dangerous substances			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01			x	x		x	
17 09	other construction and demolition wastes							
17 09 01*	construction and demolition wastes containing mercury			x	x			
17 09 02*	construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)			x	x			
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances			x	x			
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03			x	x			
18	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)							
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans							
18 01 03*	wastes whose collection and disposal is subject to special requirements in order to prevent infection		x	x	x			
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)		x	x	x			x
18 01 06*	chemicals consisting of or containing dangerous substances		x	x	x			
18 01 07	chemicals other than those mentioned in 18 01 06		x	x	x			x
18 01 09	medicines other than those mentioned in 18 01 08			x	x			x
18 01 10*	amalgam waste from dental care			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals							
18 02 02*	wastes whose collection and disposal is subject to special requirements in order to prevent infection		x	x	x		x	
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection		x	x	x		x	x
18 02 05*	chemicals consisting of or containing dangerous substances		x	x	x		x	
18 02 06	chemicals other than those mentioned in 18 02 05		x	x	x		x	x
18 02 08	medicines other than those mentioned in 18 02 07			x	x		x	x
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE							
19 01	wastes from incineration or pyrolysis of waste							
19 01 02	ferrous materials removed from bottom ash			x	x			
19 01 05*	filter cake from gas treatment			x	x		x	
19 01 06*	aqueous liquid wastes from gas treatment and other aqueous liquid wastes	x	x	x	x			
19 01 07*	solid wastes from gas treatment			x	x			
19 01 10*	spent activated carbon from flue-gas treatment			x	x		x	
19 01 11*	bottom ash and slag containing dangerous substances			x	x			
19 01 12	bottom ash and slag other than those mentioned in 19 01 11			x	x			
19 01 13*	fly ash containing dangerous substances			x	x			
19 01 14	fly ash other than those mentioned in 19 01 13			x	x			
19 01 15*	boiler dust containing dangerous substances			x	x			
19 01 16	boiler dust other than those mentioned in 19 01 15			x	x			
19 01 17*	pyrolysis wastes containing dangerous substances			x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17			x	x			
19 01 19	sands from fluidised beds			x	x			
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)							
19 02 03	premixed wastes composed only of non-hazardous wastes	x	x	x	x		x	
19 02 04*	premixed wastes composed of at least one hazardous waste	x	x	x	x			
19 02 05*	sludges from physico/chemical treatment containing dangerous substances	x	x	x	x			
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05	x	x	x	x		x	
19 02 07*	oil and concentrates from separation					x		
19 02 08*	liquid combustible wastes containing dangerous substances			x	x			
19 02 09*	solid combustible wastes containing dangerous substances			x	x			
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09			x	x			
19 02 11*	other wastes containing dangerous substances	x	x	x	x		x	
19 03	stabilised/solidified wastes							
19 03 04*	wastes marked as hazardous, partly (5) stabilised			x	x			
19 03 05	stabilised wastes other than those mentioned in 19 03 04			x	x			
19 03 06*	wastes marked as hazardous, solidified			x	x			
19 03 07	solidified wastes other than those mentioned in 19 03 06			x	x			
19 04	vitrified waste and wastes from vitrification							
19 04 01	vitrified waste			x	x			
19 04 02*	fly ash and other flue-gas treatment wastes			x	x			
19 04 03*	non-vitrified solid phase			x	x			
19 04 04	aqueous liquid wastes from vitrified waste tempering	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
19 05	Wastes from aerobic treatment of solid waste							
19 05 01	non-composted fraction of municipal and similar wastes			x	x		x	
19 05 02	non-composted fraction of animal and vegetable waste			x	x		x	
19 05 03	off-specification compost			x	x			
19 06	wastes from anaerobic treatment of waste							
19 06 03	liquor from anaerobic treatment of municipal waste	x	x	x	x		x	
19 06 04	digestate from anaerobic treatment of municipal waste		x	x	x		x	
19 06 05	liquor from anaerobic treatment of animal and vegetable waste	x	x	x	x		x	
19 06 06	digestate from anaerobic treatment of animal and vegetable waste		x	x	x		x	
19 07	landfill leachate							
19 07 02*	landfill leachate containing dangerous substances	x	x	x	x			
19 07 03	landfill leachate other than those mentioned in 19 07 02	x	x	x	x		x	
19 08	wastes from waste water treatment plants not otherwise specified							
19 08 01	screenings	x	x	x	x			
19 08 02	waste from desanding			x	x		x	
19 08 05	sludges from treatment of urban waste water	x	x	x	x		x	
19 08 06*	saturated or spent ion exchange resins			x	x			
19 08 07*	solutions and sludges from regeneration of ion exchangers	x	x	x	x			
19 08 08*	membrane system waste containing heavy metals	x	x	x	x			
19 08 09*	grease and oil mixture from oil/water separation containing edible oil and fats			x	x		x	
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09			x	x		x	
19 08 11*	sludges containing dangerous substances from biological treatment of industrial waste water	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11	x	x	x	x		x	
19 08 13*	sludges containing dangerous substances from other treatment of industrial waste water	x	x	x	x			
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13	x	x	x	x		x	
19 09	wastes from the preparation of water intended for human consumption or water for industrial use							
19 09 01	solid waste from primary filtration and screenings			x	x			
19 09 02	sludges from water clarification	x	x	x	x		x	
19 09 03	sludges from decarbonation			x	x		x	
19 09 04	spent activated carbon			x	x		x	
19 09 05	saturated or spent ion exchange resins	x	x	x	x			
19 09 06	solutions and sludges from regeneration of ion exchangers			x	x			
19 10	wastes from shredding of metal-containing wastes							
19 10 01	iron and steel waste						x	
19 10 02	non-ferrous waste						x	
19 10 03*	fluff-light fraction and dust containing dangerous substances			x	x		x	
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03			x	x		x	
19 10 05*	other fractions containing dangerous substances			x	x		x	
19 10 06	other fractions other than those mentioned in 19 10 05			x	x		x	
19 11	wastes from oil regeneration							
19 11 01*	spent filter clays	x	x	x	x			
19 11 02*	acid tars	x	x	x	x			
19 11 03*	aqueous liquid wastes	x	x	x	x	x		

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repackaging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
19 11 04*	wastes from cleaning of fuel with bases	x	x	x	x	x		
19 11 05*	sludges from on-site effluent treatment containing dangerous substances	x	x	x	x	x		
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05	x	x	x	x	x	x	
19 11 07*	wastes from flue-gas cleaning	x	x	x	x	x		
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified							
19 12 01	paper and cardboard			x	x		x	x
19 12 02	ferrous metal			x	x		x	
19 12 03	non-ferrous metal			x	x		x	
19 12 04	plastic and rubber			x	x		x	x
19 12 05	glass			x	x		x	x
19 12 06*	wood containing dangerous substances			x	x		x	
19 12 07	wood other than that mentioned in 19 12 06			x	x		x	
19 12 08	textiles			x	x		x	
19 12 09	minerals (for example sand, stones)			x	x		x	
19 12 10	combustible waste (refuse derived fuel)			x	x		x	
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances			x	x		x	
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11			x	x		x	x
19 13	wastes from soil and groundwater remediation							
19 13 01*	solid wastes from soil remediation containing dangerous substances			x	x			
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01			x	x			
19 13 03*	sludges from soil remediation containing dangerous substances	x	x	x	x			
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03	x	x	x	x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
19 13 05*	sludges from groundwater remediation containing dangerous substances	x	x	x	x			
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05	x	x	x	x			
19 13 07*	aqueous liquid wastes and aqueous concentrates from groundwater remediation containing dangerous substances	x	x	x	x			
19 13 08	aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07	x	x		x			
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS							
20 01	separately collected fractions (except 15 01)							
20 01 01	paper and cardboard			x	x		x	x
20 01 02	glass			x	x		x	x
20 01 08	biodegradable kitchen and canteen waste			x	x		x	
20 01 10	clothes			x	x		x	
20 01 11	textiles			x	x		x	
20 01 13*	solvents			x	x			
20 01 14*	acids	x	x	x	x			
20 01 15*	alkalines	x	x	x	x			
20 01 17*	photochemicals	x	x	x	x			
20 01 19*	pesticides			x	x			
20 01 21*	fluorescent tubes and other mercury-containing waste						x	
20 01 23*	discarded equipment containing chlorofluorocarbons							
20 01 25	edible oil and fat			x	x		x	
20 01 26*	oil and fat other than those mentioned in 20 01 25			x	x	x	x	
20 01 27*	paint, inks, adhesives and resins containing dangerous substances			x	x		x	

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27			x	x		x	
20 01 29*	detergents containing dangerous substances	x	x	x	x			
20 01 30	detergents other than those mentioned in 20 01 29	x	x	x	x		x	
20 01 32	medicines other than those mentioned in 20 01 31		x		x			x
20 01 33*	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries						x	
20 01 34	batteries and accumulators other than those mentioned in 20 01 33						x	
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)			x	x		x	
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35			x	x		x	
20 01 37*	wood containing dangerous substances			x	x			
20 01 38	wood other than that mentioned in 20 01 37			x	x		x	x
20 01 39	plastics			x	x		x	x
20 01 40	metals			x	x		x	x
20 01 41	wastes from chimney sweeping			x	x			
20 02	garden and park wastes (including cemetery waste)							
20 02 01	biodegradable waste			x	x		x	
20 02 02	soil and stones			x	x			
20 02 03	other non-biodegradable wastes			x	x			
20 03	other municipal wastes							
20 03 01	mixed municipal waste		x	x	x			x
20 03 02	waste from markets		x	x	x		x	x
20 03 03	street-cleaning residues	x	x	x	x		x	x
20 03 04	septic tank sludge				x			

Table S2 .2 Permitted waste types and quantities								
Maximum quantity	Annual throughput:155,000 tonnes (this is the total cumulative throughput for all of the waste codes in this table) . Maximum capacity for individual activities specified in table S1.1, where necessary	1. pH adjustment and/or separation	2. Bulking (D13)	3. Repack-aging (D14)	4. Storage prior to disposal	5. Waste oils	6. Storage prior to recovery	7. Shredding
Waste code	Description (Only the 6 digit codes (including the asterisk for hazardous waste) are permitted)							
20 03 06	waste from sewage cleaning	x	x	x	x			
20 03 07	bulky waste		x	x	x			x

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Vents from process tanks to air	No parameters set	Process tanks	No limit set	-	-	Permanent sampling access not required

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
No emission points to water						

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
Point V on site plan	COD	Site effluent treatment plant	20000 mg/l	before release	Each batch	As agreed in writing by the Agency
Point V on site plan	Ammonia	Site effluent treatment plant	375.0mg/l	before release	Each batch	BS 6068: Section 2.11 1987
Point V on site plan	Chromium	Site effluent treatment plant	1.0mg/l	before release	Each batch	BS 6068: Section 2.60 1998
Point V on site plan	Mercury and its compounds, expressed as mercury (Total Hg)	Site effluent treatment plant	0.005 mg/l	before release	Each batch	BS 6068: Section 2.60 1998
Point V on site plan	Cadmium	Site effluent treatment plant	0.005 mg/l	before release	Each batch	BS 6068: Section 2.60 1998
Point V on site plan	Arsenic	Site effluent treatment plant	0.001 mg/l	before release	Each batch	BS 6068: Section 2.60 1998

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
Point V on site plan	Zinc	Site effluent treatment plant	1.0mg/l	before release	Each batch	BS 60 68: Section 2.60 1998

Table S3.4 Annual limits

Substance	Medium	Limit (including unit)
Mercury	Water	0.5kg
Cadmium	Water	1.0kg
Ammonia	Water	3000kg
Zinc	Water	50kg
Chromium	Water	10kg

Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to water Parameters as required by condition 3.5.1.	V	Every 6 months	01/08/06

Table S4.2: Annual production/treatment

Parameter	Units
Volume of effluent released	m ³

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Total lime used	Annually	tonnes
Treatment efficiency	Annually	ratio of mass of metals received to mass of metals discharged
Mass of ammonia emitted	Annually	Kg
Mass of mercury emitted	Annually	Kg
Mass of cadmium emitted	Annually	Kg
Mass of zinc emitted	Annually	Kg
Mass of chromium emitted	Annually	Kg

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	09/06/2006
Water usage	Form water usage1 or other form as agreed in writing by the Environment Agency	09/06/2006
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	09/06/2006
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	09/06/2006
Waste	Form RATS2E or other form as agreed in writing with the Environment Agency	01/10/2004

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

(a) If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	EPR/LP3137SU
Name of operator	Chemwaste Ltd
Location of Facility	Ladywood Way, Ravensthorpe Industrial Estate, Ravensthorpe, West Yorkshire. WF13 3LN
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution

To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit

To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of **Chemwaste Ltd**

Schedule 6 - Interpretation

"*accident*" means an accident that may result in pollution.

"*annually*" means once every year.

"*application*" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

"*authorised officer*" means any person authorised by the Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

"*emissions to land*" includes emissions to groundwater.

"*EP Regulations*" means Environmental Permitting (England and Wales) Regulations 2010 (SI 2000 No 675) and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"*fugitive emission*" means an emission to air, water or land from the activities from a localised or diffuse source which is not controlled by an emission or background concentration limit.

"*groundwater*" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*MCERTS*" means the Environment Agency's Monitoring Certification Scheme.

"*quarter*" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"*Waste code*" means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

"*year*" means calendar year ending 31 December.

"*Annex IIA*" means Annex IIA to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

"*best available treatment, recovery and recycling techniques*" shall have the meaning given to it in the document published jointly by the Department for Environment, Food and Rural Affairs, the Welsh Assembly Government and the Scottish Executive on 27th November 2006, entitled "Guidance on Best Available Treatment, Recovery and Recycling Techniques (BATRRT) and Treatment of Waste Electrical and Electronic Equipment (WEEE);

“controlled substances” means chlorofluorocarbons, other fully halogenated chlorofluorocarbons, halons, carbon tetrachloride, 1,1,1-trichloroethane, methyl bromide, hydrobromofluorocarbons and hydrochlorofluorocarbons listed in Annex I of Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer, including their isomers, whether alone or in a mixture, and whether they are virgin, recovered, recycled or reclaimed. This definition shall not cover any controlled substance which is in a manufactured product other than a container used for the transportation or storage of that substance, or insignificant quantities of any controlled substance, originating from inadvertent or coincidental production during a manufacturing process, from unreacted feedstock, or from use as a processing agent which is present in chemical substances as trace impurities, or that is emitted during product manufacture or handling.

“D” means a disposal operation provided for in Annex IIA to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

“End-of-Life Vehicles Directive” means Directive 2000/53/EC of the European Parliament and Council of 18 September 2000 on end-of-life vehicles.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 No.894, the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138), the List of Wastes (England) Regulations 2005 No.895 and the List of Wastes (Wales) Regulations 2005 No. 1820 (W.148).

“ozone-depleting substances” *“ODS”* means “controlled substances” contained in refrigeration, air-conditioning and heat pump equipment, equipment containing solvents, fire protection systems and fire extinguishers.

“R” means a recovery operation provided for in Annex IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

“WEEE” means waste electrical and electronic equipment.

“WEEE Directive” means Directive 2002/96/EC of the European Parliament and of the Council of 27th January 2003 on waste electrical and electronic equipment (WEEE) as amended by Directive 2003/108/EC of the European Parliament and of the Council of 8th December 2003 on waste electrical and electronic equipment (WEEE).

“disposal” means any of the operations provided for in Annex IIA to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

“recovery” means any of the operations provided for in Annex IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

“WFD” means Waste Framework Directive (Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste).

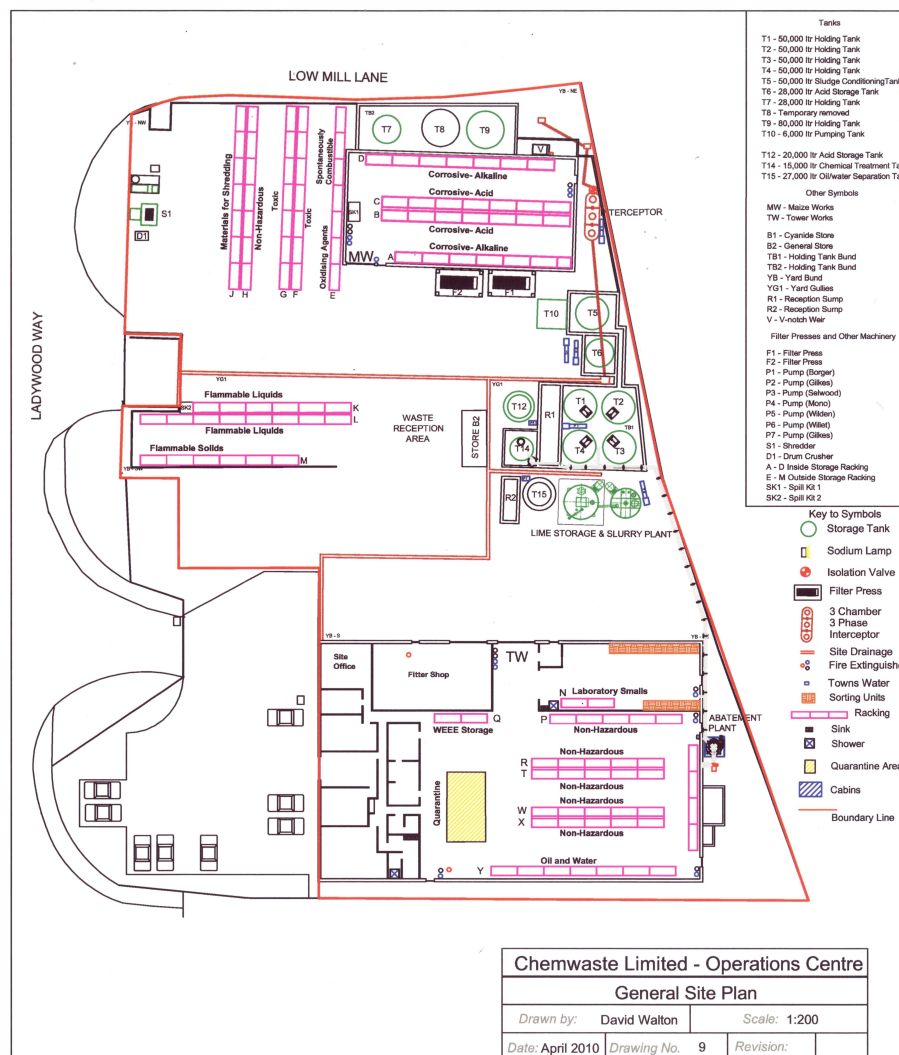
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

Schedule 7 - Site plan



END OF PERMIT

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

3C Waste Limited
Maw Green Landfill Site
Maw Green Road
Coppenhall
Crewe
Cheshire
CW1 5NG

Variation application number

EPR/BS7722ID/V010

Permit number

EPR/BS7722ID

Maw Green Landfill Site

Permit number EPR/BS7722ID

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

The Environment Agency have varied this permit to correct errors in the issued permit and insert the relevant conditions, standards and limits for the sector.

Amendments include:

- Table S1.1 is amended to vary activity AR7 from a Section 5.3 Part A(1)(a)(ii) to a Section 5.3 Part A(1)(a)(vi) activity;
- Table S1.1 is amended to vary activity AR6 to include restrictions on the storage of hazardous waste;
- Table S1.1 is amended to include appropriate limits for the processing of asbestos impacted waste types;
- Add condition 2.4 to insert improvement condition;
- Amend error in condition 2.7.3;
- Condition 3.5.1 to add ambient air monitoring;
- Table S1.2 is amended to update operating techniques;
- Table S1.3 is amended to add improvement condition 5 for asbestos monitoring and sampling;
- Table S1.4 is amended to add preoperational condition 4 for asbestos processing enclosure and abatement;
- Table S2.4 is amended to vary waste types to add waste code 17 05 04 and add restrictions on waste types containing asbestos;
- Table S3.2 is amended to add emissions limits to the asbestos screener air extraction system;
- Table S3.14 has been added to include Ambient Air Monitoring requirements;
- Table S4.1 is amended to add ambient air monitoring reporting;
- Table S4.4 is amended to add reporting forms for Ambient Air and Air Monitoring;
- Site layout plan is amended to include the asbestos impacted waste treatment area.

The installation operates as follows.

This site undertakes the landfilling of non-hazardous wastes and will be subject to restoration.

In addition, there are a number of waste treatment activities within the boundary of the landfill. This includes a Soil Treatment Facility (STF) located within the boundary, this undertakes the sorting and separation of asbestos from contaminated soils along with biological treatment activities taking leachate and hazardous and non-hazardous wastes.

Screening of asbestos impacted soils will be enclosed and abated to minimise emissions from the process. The STF will accept and treat up to 50,000 tonnes per annum of hazardous waste (including the asbestos impacted soils). Once treated the wastes will be tested for suitability for use in the wider landfill restoration. Soils that do not meet the reuse criteria will be sent offsite for disposal.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application EPR/BS7722ID/A001	09/10/2003	Received
Request for information	17/06/2004	Response received 19/07/2004
Request for information	23/06/2004	Response received 06/07/2004
Request for information	06/07/2004	Response received 20/07/2004
Request for information	25/08/2004	Response received 06/10/2004 and 11/10/2004
Request for information	30/12/2004	Response received 14/01/2005 and 27/01/2005
Permit determined EPR/BS7722ID	15/02/2005	
Variation notice UP3232LQ determined (EPR/BS7722ID/V002)	17/03/2005	
Application for Permit variation (EPR/BS7722ID/V003)	10/10/2007	Application received
Variation notice FP3931XK determined (EPR/BS7722ID/V003)	30/05/2008	
Environment Agency variation determined (EPR/BS7722ID/V005)	14/05/2013	Agency variation to implement changes introduced by IED
Environment Agency Landfill Sector Review Permit reviewed Variation notice determined EPR/BS7722ID/V006	15/02/2017	Permit varied and consolidated permit issued in the modern format
Application EPR/BS7722ID/V007	Duly made 11/07/2019	Application to vary Permit to include soil treatment facility and associated Activities on site.
Request for information in Schedule 5 Notice	23/08/2019	Response received 23/10/2019
Request for information in Schedule 5 Notice	22/11/2019	Responses received 13/12/2019 and 10/01/2020
Request for information by email	20/01/2020	Response received 12/02/2020
Variation determined EPR/BS7722ID/V007	18/03/2020	Varied permit issued.
Application EPR/BS7722ID/V008 (variation and consolidation)	Duly made 27/09/2022	Application to vary and update the permit. Increasing the treatment capacity for hazardous soils at the Soil Treatment Facility. Operator registered office change of address incorporated as administrative change.
Variation determined and consolidation issued EPR/BS7722ID	25/01/2023	Varied and consolidated permit issued in modern format.

Status log of the permit		
Description	Date	Comments
Application EPR/BS7722ID/V009 (variation and consolidation)	Duly Made 13/04/2023	Application to add an additional listed activity for the treatment and storage of soils contaminated with asbestos at the Soil Treatment Facility (STF), add associated waste codes and increase hazardous storage capacity at any one time.
Variation determination and consolidation issued EPR/BS7722ID	20/07/2023	Varied and consolidated permit issued.
Variation determined and consolidation issued EPR/BS7722ID/V010 Billing Reference BS7722ID	05/10/2023	Environment Agency initiated variation. Varied and consolidated permit issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 has varied:

Permit number

EPR/BS7722ID

Issued to

3C Waste Limited ("the operator")

whose registered office is

3 Sidings Court

White Rose Way

Doncaster

DN4 5NU

company registration number 02632581

to operate a regulated facility at

Maw Green Landfill Site

Maw Green Road

Coppenhall

Crewe

Cheshire

CW1 5NG

to the extent set out in the schedules.

The notice shall take effect from 05/10/2023

Name	Date
Principal Permitting Team Leader	05/10/2023

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions were varied as a result of an Environment Agency initiated variation:

Conditions	Reason
Condition 2.4.1 and 2.4.2	Added as improvement condition inserted in table S1.3.
Condition 2.7.3	Amended to confirm condition applies to AR1 only.
Condition 3.5.1	Amended to add reference to ambient air monitoring.
Condition 2.6.8, 2.6.9, 2.6.10	Amended to update condition referencing.
Table S1.1 as referenced by condition 2.1.1	Amended to vary activity AR7 from a Section 5.3 Part A(1)(a)(ii) to a Section 5.3 Part A(1)(a)(vi) activity. Amended to vary activity AR6 to including restrictions on the storage of hazardous waste. Amended to include appropriate limits for the processing of asbestos impacted waste types.
Table S1.2 as referenced by condition 2.3.1	Amended to excluded references to mechanical screener which is not enclosed and remove operating techniques which contradict appropriate measures for the sector.
Table S1.3 as referenced by condition 2.4.1	Amended to add improvement condition 5 monitoring for asbestos monitoring and sampling.
Table S1.4 as referenced by condition 2.5.1	Amended to add preoperational condition 4 for asbestos processing enclosure and abatement.
Table S2.4 as referenced by condition 2.7.4	Amended to vary waste types to add waste code 17 05 04 and add restrictions on waste types containing asbestos.
Table S3.2 as referenced by condition 3.1.2	Amended to add emission limits to asbestos screener air extraction system.
Table S3.14 as referenced by condition 3.5.1	Added to include ambient air monitoring requirements.
Table S4.1 as referenced by condition 4.2.4	Amended to add ambient air monitoring reporting.
Table S4.4 as referenced by condition 4.2.3 and 4.2.4	Amended to add reporting forms for ambient air monitoring.
Schedule 7 – site layout plan	Amended to include the asbestos impacted waste treatment area.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BS7722ID

This is the consolidated permit referred to in the variation and consolidation notice for application
EPR/BS7722ID/V010 authorising,

3C Waste Limited ("the operator"),

whose registered office is

**3 Sidings Court
White Rose Way
Doncaster
DN4 5NU**

company registration number 02632581

to operate an installation at

**Maw Green Landfill Site
Maw Green Road
Coppenhall
Crewe
Cheshire
CW1 5NG**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Principal Permitting Team Leader	05/10/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit shall be as set out in the Deed of Performance dated 17 October 2007 between the Waste Recycling Group Limited (now known as FCC Environment (UK) Limited) and the Environment Agency as varied by a Deed of Variation dated 15 October 2010 (as varied by further Deeds of Variation from time to time). The operator shall accordingly ensure that the Permit is and remains throughout its subsistence a Permit to which the Deed relates and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
 - (b) the costs of the financial provision required by condition 1.2.1; and
 - (c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

- 1.4.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;

- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

- 1.5.1 The operator shall take appropriate measures to ensure that:
 - (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment
- 1.5.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR3 to AR8 and AR16) waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in blue on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.5 shall conform to the specifications set out in that table.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

2.6 Landfill Engineering

- 2.6.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the operator has submitted a cell layout drawing and the Environment Agency has confirmed that it is satisfied with the cell layout drawing.
- 2.6.3 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:
 - (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
 - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.6.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.6.5 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.6 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:
 - (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
 - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.6.7 The operator shall submit a CQA Validation Report within four weeks of the completion of the construction of the relevant landfill infrastructure or other time period agreed in writing with the Environment Agency.
- 2.6.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.5 and 2.6.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.

- 2.6.9 For the purposes of conditions 2.6.1, 2.6.2, 2.6.4 and 2.6.5, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.
- 2.6.10 Where the Environment Agency has required further information under condition 2.6.9(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

2.7 Waste acceptance

- 2.7.1 For the following activities referenced in Schedule 1, Table S1.1 (AR1), wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, Table S2.1, and
 - (b) they are non-hazardous waste, and
 - (c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400 mm), and
 - (d) they are not shredded used tyres, and
 - (e) they are not liquid waste (including waste waters but excluding sludge), and
 - (f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown, and
 - (g) all the relevant waste acceptance procedures have been completed, and
 - (h) they fulfil the relevant waste acceptance criteria, and
 - (i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and
 - (j) they are wastes which have been treated, except for: inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment, and
 - (k) they are wastes with a code beginning with 07 05 and 16 03, they shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.
- 2.7.2 Wastes shall only be accepted for restoration where:
- (a) they are listed in schedule 2, table S2.2 and
 - (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.
- 2.7.3 For the following activities referenced in Schedule 1, Table S1.1 (AR1) the operator shall:
- (1) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and
 - (2) be satisfied that the waste conforms to the requirements of condition 2.6.1.

- 2.7.4 For the following activities referenced in schedule 1, Table S1.1 (AR3 – AR8 and AR16) waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2, Tables S2.3a and S2.3b and S2.4
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.7.5 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.
- 2.7.6 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.
- 2.7.7 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing reference 1351-01-08 Final Restoration Plan.
- 2.7.8 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1 table S1.5.
- 2.7.9 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.
- 2.7.10 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.
- 2.7.11 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (1) the nature of the process producing the waste;
 - (2) the composition of the waste;
 - (3) the handling requirements of the waste;
 - (4) the hazardous property associated with the waste, if applicable; and
 - (5) the waste code of the waste.
- 2.7.12 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.8 Leachate levels

- 2.8.1 The limits for the level of leachate listed in schedule 3 table S3.1 shall not be exceeded.

2.9 Closure and aftercare

- 2.9.1 The operator shall maintain a closure and aftercare management plan.

2.10 Landfill gas management

- 2.10.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:
- (a) collect landfill gas; and
 - (b) control the migration of landfill gas.
- 2.10.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.
- 2.10.3 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a revised landfill gas management plan;
 - (b) implement the revised landfill gas management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 The limits in Schedule 3 shall not be exceeded.
- 3.1.2 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.2, S3.3 and S3.4.
- 3.1.3 The limits given in Table S3.2 shall not be exceeded, save that compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.
- 3.1.4 The operator shall prevent the input of any hazardous substances from the activities into groundwater.
- 3.1.5 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:
- (a) between nine and six months prior to the sixth anniversary of the granting of the permit, and
 - (b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.
- 3.1.6 For the following activities referenced in schedule 1, table S1.1 (AR3 to AR8 and AR16) periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:
- (a) Leachate specified in tables S3.1 and S3.11;
 - (b) Point source emissions specified in tables S3.2, S3.3 and S3.4;
 - (c) Groundwater specified in tables S3.5 and S3.9;
 - (d) Landfill gas specified in tables S3.6, S3.8 and S3.10;
 - (e) Surface water specified in table S3.12;
 - (f) Particulate matter specified in table S3.7;
 - (g) Ambient air monitoring specified in table S3.14.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 A topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
- (a) annually, and
 - (b) prior to the disposal of waste in any new cell or new development area of the landfill, and
 - (c) following closure of the landfill or part of the landfill.
- 3.5.5 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 to S3.13 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.6.2 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution hazard or annoyance from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.7 Fire prevention

- 3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.7.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
 - (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) the results of groundwater monitoring;
 - (ii) sub-surface landfill gas monitoring;
 - (iii) leachate levels, quality and quantities;
 - (iv) landfill gas generation and collection;
 - (v) waste types and quantities;
 - (vi) the specification and as built drawings of the basal, sidewall and capping engineering systems.
- for the following activities referenced in schedule 1, table S1.1 (AR3 to AR8 and AR16):
- (vii) off-site environmental effects; and
 - (viii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 For the following activities referenced in schedule 1, Table S1.1 (AR1 and AR2), a report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;
 - (b) the energy consumed at the site, reported in the format set out in schedule 4 table S4.3;
 - (c) the annual production/treatment set out in schedule 4 table S4.2;
 - (d) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;
 - (e) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;
 - (f) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
 - (g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
 - (h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of existing and any new leachate and landfill gas extraction and all monitoring points.
- 4.2.3 For the following activities referenced in schedule 1, table S1.1 (AR3 to AR8 and A16) a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31st January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production/treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.4 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

- 4.2.5 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.6 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents.
- (b) in the event of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 For the following activities referenced in schedule 1, table S1.1 (AR3 to AR8 and AR16) where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	D5 –Specially engineered landfill; R5 - the recycling or reclamation of inorganic material and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for non-hazardous waste and landfill restoration.	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
AR2	D8 – Biological treatment of waste	Section 5.4, Part A(1)(a)(i), Biological treatment of non-hazardous waste.	Treatment of leachate in a facility with a capacity of >50 tonnes/day.	Leachate arising from the landfill.
AR3	D8 – Biological treatment of waste and R5 - the recycling or reclamation of inorganic material	Section 5.3 Part A(1)(a)(ii)	Bioremediation process for hazardous waste.	A maximum treatment capacity of 38,000 tonnes at any one time. Hazardous waste types and quantities as specified in table S2.3b.
AR4	D8 – Biological treatment of waste and R5 - the recycling or reclamation of inorganic material	Section 5.4 Part A(1)(b)(i), Biological treatment of non-hazardous waste.	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment.	A maximum treatment capacity of 38,000 tonnes at any one time. Non-hazardous waste types and quantities as specified in table S2.3b.

Table S1.1 activities				
AR5	D8 – Biological treatment of waste and R5 - the recycling or reclamation of inorganic material	Section 5.3 Part A(1)(a)(ii)	Screening to remove oversize material.	A maximum treatment capacity of 38,000 tonnes at any one time. Hazardous waste types and quantities as specified in table S2.3a.
AR6	R13 - Storage of waste pending any of the operations numbered R1 to R12	Section 5.6 Part A(1)(a)	Temporary storage of hazardous waste.	A maximum of 38,000 tonnes at any one time on site for wastes due to undergo treatment as per Activities AR3, AR4, AR5 or AR7. All storage shall take place on an impermeable surface with a sealed drainage system. No more than 38,000 tonnes of hazardous waste shall be stored in aggregate. No more than 150 tonnes of hazardous asbestos impacted wastes for activity AR7 shall be stored at any time. Soil impacted with asbestos shall be stored inside a building in a way that minimises asbestos fibre emissions such as spraying and sheeting. Hazardous waste types and quantities as specified in table S2.3a, S2.3b and S2.4.

AR7	R5 - the recycling or reclamation of inorganic material	Section 5.3 Part A(1)(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.	Recovery of soils impacted with identifiable pieces of bonded asbestos cement by separation.	<p>From treatment of soils impacted with identifiable pieces of bonded asbestos cement, by handpicking of asbestos cement only, or by 3-way screener into oversize, medium size and silt-sized fractions prior to handpicking of asbestos cement from the medium fraction, to storage of recovered soils and separated bonded asbestos cement.</p> <p>Screening and handpicking shall take place in a building on an impermeable surface with a sealed drainage system.</p> <p>The screener shall be enclosed.</p> <p>Handpicking shall take place in a dedicated enclosed picking line.</p> <p>No more than 100 tonnes per day of soils impacted with identifiable pieces of bonded asbestos cement shall be treated (in aggregate).</p> <p>The screening and handpicking of asbestos impacted wastes shall not increase the asbestos fibre load in the waste.</p> <p>Storage of screened waste not impacted with asbestos shall be stored outside in bays or in a building.</p> <p>Screened soil impacted with asbestos shall be stored inside a building in a way that minimises asbestos fibre emissions such as spraying and sheeting.</p> <p>Separated bonded asbestos fragments shall be bagged whilst handpicking is in progress. Once handpicked asbestos shall be stored double bagged in sealed, closed and locked containers.</p> <p>Treated waste shall be stored for no longer than 6 months prior to transfer off-site or to the landfill as cover.</p> <p>No more than 10 tonnes of picked asbestos shall be stored on site.</p> <p>No more than 1000 tonnes of treated soils shall be stored on site.</p> <p>Non-hazardous treated soils shall be kept separate from hazardous soils.</p> <p>Waste types (soil wastes only) and quantities as specified in schedule 2, table S2.4.</p>
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Table S1.1 activities				
AR8	R5 - the recycling or reclamation of inorganic material	Section 5.4 Part A (1)(a)(ii) Physico-chemical treatment of non-hazardous waste with a capacity exceeding 50 tonnes per day.	Screening of non-hazardous waste to remove oversized material for recovery.	Non-hazardous waste following treatment on site by Activity AR4. Non-hazardous waste types and quantities as specified in table S2.3b.
Directly Associated Activities				
AR9	R1 – use principally as a fuel to generate energy		Pre-treatment and utilisation of landfill gas for energy recovery in an appliance with a rated thermal input < 50MW.	Treatment and utilisation of landfill gas arising from the landfill.
AR10	N/A		Temporary storage of waste (leachate).	Leachate arising from the landfill.
AR11	N/A		Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill.
AR12	D6 – release to water body except seas/ oceans		Discharges of site drainage from the landfill.	From surface water management system to point of entry to controlled waters.
AR13	N/A		Fuel Storage.	Storage of diesel for use in mobile plant at Soil Treatment Facility.
AR14	N/A		Water Storage.	Collection and storage of process water.
AR15	N/A		Pipework between the leachate treatment plant and public sewerage system.	From the point of discharge from the leachate treatment plant to the point where the pipework leaves the land under the control of the operator.
AR16	R13 – Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)		Storage of waste.	Temporary storage of non-hazardous waste prior to treatment on site.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions 1.2, 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the Application Form, excluding the following sections: 2.2.4 to 2.2.6, 2.3.32, 2.3.33, 2.3.34, 2.3.35, 2.3.39, 2.3.43, 2.3.50 to 2.3.54, 2.3.68, 2.3.69, 2.3.71, 2.3.72 and 2.3.78	09/10/2003
SLR letter and supporting documents regarding requests for information dated 17/06/2004.	All Parts	19/07/2004
SLR letter and supporting documents regarding requests for information dated 06/07/2004.	All Parts	20/07/2004
SLR letter and supporting documents regarding requests for information dated 25/08/2004.	All Parts	11/10/2004
SLR e-mail and supporting documents regarding revised waste list.	All Parts	14/01/2005
SLR e-mail and supporting documents All parts 14/01/2005 and 27/01/2005 regarding requests for information dated 30/12/2004.	All Parts	28/02/2006
Correspondence dated 27/02/2006 re: 27/02/2006 re: Improvement condition 1.4.1.1	All Parts	28/02/2006
Correspondence dated 03/04/2006 re: Improvement condition 1.4.1.2	All Parts	03/04/2006
Correspondence dated 01/03/2006 re: Improvement condition 1.4.1.3	All Parts	06/03/2006
Correspondence dated 15/02/2006, (ref: 404- 0197-00178) re: Improvement condition 1.4.1.5	All Parts	16/02/2006
Correspondence dated 02/2006 (ref 404-0197-00178), CQA plan for downstream monitoring wells)	All Parts	02/2006
Correspondence dated 06/04/2006 (ref:402.0197.00423) re: Improvement condition 1.4.1.7	All Parts	12/04/2006
Correspondence dated 13/04/2006 (ref: 404.0197.00178) Re: improvement condition 1.4.1.9	All Parts	18/04/2006
Correspondence dated 15/03/2005 (ref: 4D-197-178) re improvement condition 1.4.1.12	All Parts	21/05/2005

Table S1.2 Operating techniques		
Description	Parts	Date Received
Correspondence 'Maw Green Leachate Extraction Review' re improvement condition 1.4.1.13	All parts	06/2006
Revised monitoring location plan (drawing no. ESID 14, dated August 2007)	All parts	22/01/2008
Monitoring reduction letter Ref ALM/MG/EAL53	All Parts	22/01/2014
FCC letter ref MG/LC2.2AR/20140829	All Parts	29/08/2014
FCC Document E mail from FCC 29 Jan 2016 Attached updated tables for Doc ref: ALM/MG/EAL53	All Parts	29/01/2015
Landfill Restoration Plan (referenced report 10228-R07 and dated May 2017)	All Parts	15/05/2017
Application	Application Forms (All Parts) ESID Amendment Site Condition Report (referenced 3695-CAU-XX-XX-RP-V-0305.A0-C2 and dated March 2019) Soil Treatment Facility Amenity and Accident Plan (referenced 3695-CAU-XX-XX-RP-V-0302.A0-C2 and dated March 2019)	01/04/2019
Response to Schedule 5 Notice (1) dated 23/08/2019	Soil Treatment Facility Dust Management Plan (reference 3695-CAU-XX-XX-RP-V-0307-A0-C1 and dated October 2019) Soil Treatment Facility Operating Techniques (reference 3695-CAU-XX-XX-RP-V-0303 and dated October 2019) Response includes clarification on area drainage, clarification on waste codes and biofilter/air quality monitoring details.	02/10/2019
Response to Schedule 5 Notice (2) follow up request dated 22/11/2019 and 02/01/2020	STC Soil Characterisation Procedure (referenced WI-003) and dated 26/11/2019) Response includes further detail on waste code acceptance, biofilter and air quality monitoring.	13/12/2019
	Soil Treatment Facility Odour Management Plan (reference 3695-CAU-XX-XX-RP-V-0308-	10/01/2020

Table S1.2 Operating techniques		
Description	Parts	Date Received
	A0-C3 OMP Combined and dated December 2019)	
Response to request for more information dated 20/01/2020	Drawings Leachate Pipeline Route (ref. 3695-CAU-XX-XX-DR-V-1802 P1) and Proposed Layout Plan (ref. 3695-CAU-XX-XX-DR-V-1801 P3) detailing sewer connections to site and proposed monitoring locations respectively.	12/02/2020
Response to Improvement Condition 4	H1 Assessment (referenced 5193-CAU-XX-XX-RP-V-0308.A0.C1 Final and dated November 2021)	08/11/2021
Application	<p>Application Forms (All Parts)</p> <p>Updated Supporting Document (reference 5193-CAU-XX-XX-RP-V-0300.A0.C1 and dated December 2021)</p> <p>Updated Amenity and Accident Plan (reference 5193-CAU-XX-XX-RP-V-0301-A0.C1 and dated December 2021)</p> <p>Addendum to ESID Report (referenced 5193-CAU-XX-XX-RP-V-0302-A0.C1 and dated December 2021)</p> <p>Updated Operating Techniques Document (referenced 5193-CAU-XX-XX-RP-V-0306.A0.C1 and dated December 2021)</p> <p>Updated BAT Review (referenced 5193-CAU-XX-XX-RP-V-0307.A0.C1 and dated December 2021)</p>	15/12/2021
Application EPR/BS7722ID/V009	<p>Documents received in response to Section 3a of form Part C3:</p> <p>Treatment process & BAT review - reference 10012023, excluding all references to mechanical screener that is not enclosed.</p> <ul style="list-style-type: none"> Dust & Emissions Management Plan (Document Ref: 5193-CAU-XX-XX-RP-V-0313.A0.C1), excluding all references to mechanical screener that is not enclosed. Environmental Setting and Installation Design (ESID) - Addendum 2022 (Document Ref: 5193-CAU-XX-XX-RP-V-0309.A0.C1), excluding all reference to mechanical screener that is not enclosed. <p>Amenity & Accidents Risk Assessment (Document Ref: 5193-CAU-XX-XX-RP-</p>	10/01/2023

Table S1.2 Operating techniques		
Description	Parts	Date Received
	V-0310.A0.C1), excluding all references to mechanical screener that is not enclosed. Activities & Operating Techniques Report (Document Ref: 5193-CAU-XX-XX-RP-V-0311.A0.C1), excluding all references to mechanical screener that is not enclosed	
Description - Chemical waste: appropriate measures for permitted facilities Version published 18 November 2020	Parts: All parts of the appropriate measures guidance shall apply.	05/10/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
4	(b) The operator shall submit to the Environment Agency in writing for approval, a report detailing monthly chemical analysis monitoring results of collected waters from the Soil Treatment Facility (STF) at the point of discharge from the STF. The report should contain details of comparison of results from the chemical analysis to existing discharge consent limits and the Environment Agency's H1 Guidance.	Complete
5	<p>The operator shall provide a report on the monitoring undertaken as part of the sampling of the incoming waste and the separated wastes streams, from the operation of the asbestos screening process over 4 months of operation, for approval by the Environment Agency.</p> <p>The sampling report shall:</p> <ul style="list-style-type: none"> • detail the method(s) used to sample and analyse the treated waste streams for asbestos fibres; • demonstrate a high percentile level of confidence in the treatment process taking account of the amount of waste treated per batch and the number of samples required to adequately sample each waste stream, both initially and on an ongoing basis; • demonstrate that additional asbestos fibre contamination is not being created by the screening process. • recommend any additional measures to be undertaken to ensure compliance with the permit conditions. <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan.</p> <p>The operator shall implement the additional measures as approved, and from the date stipulated by, the Environment Agency.</p>	08/04/2024

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational Measures
1	Deposit of wastes in any area of the Permitted installation where waste deposit commences after the issue of the permit	As part of any construction proposals required by condition 2.5.1 the operator shall include a design for leachate collection infrastructure, which includes details of the leachate collection layer, drainage pipework, collection systems and drilling targets.
2	Deposit of waste over previously completed areas of phase 1	A leachate drainage layer shall be incorporated into the design of the internal slope between phase 1 and future phases. The design specification of this layer shall be approved in accordance with condition 2.5.1.
3	Engineering of any new cell	As part of any construction proposals required by condition 2.5.1, the operator shall submit a report investigating the existence of sand horizons beneath the cell base. The report shall detail the thickness of any encountered sand horizon, the presence of groundwater including the piezometric head and shall also include an assessment into the possibility of basal heave and any necessary preventative action required for the cell, together with any required amendments to CQA procedures for engineering at the site. If in the preparation of the report, extra intrusive site investigation is undertaken, the report shall contain all relevant borehole logs and descriptions.
4	Operation of the mechanical screener for treatment of asbestos impacted wastes	<p>Prior to the use of the mechanical screener for the pre-screening of asbestos contaminated soils under activity reference AR7 a report shall be submitted for written approval detailing the following aspects:</p> <ul style="list-style-type: none"> • Evidence to demonstrate that the mechanical screener is fully enclosed and all dust emissions from the screening operation are directed to an active abatement system with a HEPA filter or other suitable design. • Details of the proposed commissioning, operational and maintenance procedures associated with the mechanical screener and active abatement system to be implemented on site. • Details of monitoring checks, audits and emergency procedures to be implemented on site to ensure both the mechanical screener and active abatement system are fully operational and working as designed. <p>No mechanical pre-screening of asbestos contaminated soils under activity reference AR3A shall commence unless the Environment Agency has given prior approval under this condition.</p>

Table S1.5 Annual waste input limits	
Category	Limit Tonnes/ Year
Non-hazardous waste	450,000
Inert waste	450,000
Waste for restoration	75,000

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 01	wastes from mineral excavation
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03	wastes from physical and chemical processing of metalliferous minerals
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 10
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 05	drilling muds and other drilling wastes
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
02 01 10	waste metal
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	de-inking sludges from paper recycling

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	Wastes from the leather, fur and textile industries
04 01	wastes from the leather and fur industry
04 01 01	fleshings and lime split wastes
04 01 02	liming waste
04 01 06	sludges, in particular from on-site effluent treatment containing chromium
04 01 07	sludges, in particular from on-site effluent treatment free of chromium
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	wastes from dressing and finishing
04 02	wastes from the textile industry
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 15	wastes from finishing other than those mentioned in 04 02 14
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
05 01 16	sulphur-containing wastes from petroleum desulphurisation
05 01 17	bitumen
05 06	wastes from the pyrolytic treatment of coal
05 06 04	waste from cooling columns
05 07	wastes from natural gas purification and transportation
05 07 02	wastes containing sulphur
06	Wastes from inorganic chemical processes
06 03	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 16	metallic oxides other than those mentioned in 06 03 15
06 05	sludges from on-site effluent treatment

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
06 06	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02
06 09	wastes from the MFSU of phosphorous chemicals and phosphorous chemical processes
06 09 02	phosphorous slag
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 11	wastes from the manufacture of inorganic pigments and opacifiers
06 11 01	calcium-based reaction wastes from titanium dioxide production
06 13	wastes from inorganic chemical processes not otherwise specified
06 13 03	carbon black
07	Wastes from organic chemical processes
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 13	waste plastic
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 17	waste containing silicones other than those mentioned in 07 02 16
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 04	wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 05	wastes from the MFSU of pharmaceuticals
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	solid wastes other than those mentioned in 07 05 13
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
08 01	wastes from MFSU and removal of paint and varnish
08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17
08 02	wastes from MFSU of other coatings (including ceramic materials)
08 02 01	waste coating powders
08 02 02	aqueous sludges containing ceramic materials
08 03	wastes from MFSU of printing inks
08 03 07	aqueous sludges containing ink
08 03 13	waste ink other than those mentioned in 08 03 12
08 03 15	ink sludges other than those mentioned in 08 03 14
08 03 18	waste printing toner other than those mentioned in 08 03 17
08 04	wastes from MFSU of adhesives and sealants (including water proofing products)
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
09	Wastes from the photographic industry
09 01	wastes from the photographic industry
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
09 01 10	single-use cameras without batteries
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22
10 01 24	sands from fluidised beds
10 01 25	wastes from fuel storage and preparation of coal-fired power plants
10 01 26	wastes from cooling-water treatment

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
10 02	wastes from the iron and steel industry
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other sludges and filter cakes
10 03	wastes from aluminium thermal metallurgy
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 20	flue-gas dust other than those mentioned in 10 03 19
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 04	wastes from lead thermal metallurgy
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09
10 05	wastes from zinc thermal metallurgy
10 05 01	slags from primary and secondary production
10 05 04	other particulates and dust
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06	wastes from copper thermal metallurgy
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 04	other particulates and dust
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09
10 07	wastes from silver, gold and platinum thermal metallurgy
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 04	other particulates and dust

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
10 07 05	sludges and filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
10 08	wastes from other non-ferrous thermal metallurgy
10 08 04	particulates and dust
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 16	flue-gas dust other than those mentioned in 10 08 15
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
10 09	wastes from casting of ferrous pieces
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
10 10	wastes from casting of non-ferrous pieces
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
10 11	wastes from manufacture of glass and glass products
10 11 03	waste glass-based fibrous materials
10 11 05	particulates and dust
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust
10 12 05	sludges and filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 12 13	sludge from on-site effluent treatment
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)
10 13 07	sludges and filter cakes from gas treatment
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14	waste concrete and concrete sludge
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09
11 01 14	degreasing wastes other than those mentioned in 11 01 13
11 02	wastes from non-ferrous hydrometallurgical processes
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
11 05	wastes from hot galvanising processes
11 05 01	hard zinc
11 05 02	zinc ash
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 13	welding wastes
12 01 15	machining sludges other than those mentioned in 12 01 14
12 01 17	waste blasting material other than those mentioned in 12 01 16
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile packaging
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	Wastes not otherwise specified in the list
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 03	end-of-life tyres
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 20	glass
16 02	wastes from electrical and electronic equipment
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
16 03	off-specification batches and unused products
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
16 08	spent catalysts
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 11	waste linings and refractories
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	wood, glass and plastic
17 02 01	wood
17 02 02	glass
17 02 03	plastic
17 03	bituminous mixtures, coal tar and tarred products
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 04	metals (including their alloys)
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 06	insulation materials and asbestos-containing construction materials
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 09	other construction and demolition wastes
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
18	Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 06	chemicals other than those mentioned in 18 02 05
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 01	wastes from incineration or pyrolysis of waste
19 01 02	ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 03	stabilised/solidified wastes
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 04	vitrified waste and wastes from vitrification
19 04 01	vitrified waste
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	wastes from waste water treatment plants not otherwise specified
19 08 01	screenings
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 01	solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 04	spent activated carbon
19 09 05	saturated or spent ion exchange resins
19 09 06	solutions and sludges from regeneration of ion exchangers
19 10	wastes from shredding of metal-containing wastes
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 11	wastes from oil regeneration
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	glass
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
20 03	other municipal wastes
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Table S2.2 Permitted waste types for restoration	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 03	wastes from pulp, paper and cardboard production and processing
03 03 05	de-inking sludges from paper recycling
03 03 09	lime mud waste
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 05	sludges from treatment of urban waste water
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones)
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Table S2.3a Permitted waste types for Physico-Chemical Treatment (Activity A5 in Table S1.1) at Soil Treatment Facility	
Maximum Quantity	Annual throughput shall not exceed 50,000 tonnes for activities AR3, AR4, AR5, AR6, AR7, AR8, AR16
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 09	waste sand and clays
01 05	Drilling muds and other wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 05*	oil spills
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	Oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
17	Construction and demolitions wastes (including excavated soil from contaminated sites)
17 02	Wood, glass and plastic
17 02 01	wood
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing hazardous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing hazardous substances
17 05 08	track ballast other than those mentioned in 17 05 07
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	Wastes from physico/chemical treatment treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 05*	sludges from physico/chemical treatment containing hazardous substances – wastes suitable for biological treatment only
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05 – wastes suitable for biological treatment only
19 05	wastes from aerobic treatment of solid wastes

Table S2.3a Permitted waste types for Physico-Chemical Treatment (Activity A5 in Table S1.1) at Soil Treatment Facility	
Maximum Quantity	Annual throughput shall not exceed 50,000 tonnes for activities AR3, AR4, AR5, AR6, AR7, AR8, AR16
Waste code	Description
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	waste from desanding
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than those mentioned in 19 12 06
19 13	Wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	Separately collected fractions (except 15 01)
20 01 38	wood other than that mentioned in 20 01 37
20 02	Garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 02	soil and stones
20 03	Other municipal wastes
20 03 03	street cleaning residues

Table S2.3b Permitted waste types for Biological Treatment (Activity A3/A4 in Table S1.1) at Soil Treatment Facility	
Maximum Quantity	Annual throughput shall not exceed 50,000 tonnes for activities AR3, AR4, AR5, AR6, AR7, AR8, AR16
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 09	waste sand and clays
01 05	Drilling muds and other wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 05*	oil spills
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	Oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
17	Construction and demolitions wastes (including excavated soil from contaminated sites)
17 02	Wood, glass and plastic
17 02 01	wood
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing hazardous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing hazardous substances
17 05 08	track ballast other than those mentioned in 17 05 07
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	Wastes from physico/chemical treatment treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 05*	sludges from physico/chemical treatment containing hazardous substances – wastes suitable for biological treatment only
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05 – wastes suitable for biological treatment only
19 05	wastes from aerobic treatment of solid wastes

Table S2.3b Permitted waste types for Biological Treatment (Activity A3/A4 in Table S1.1) at Soil Treatment Facility	
Maximum Quantity	Annual throughput shall not exceed 50,000 tonnes for activities AR3, AR4, AR5, AR6, AR7, AR8, AR16
Waste code	Description
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	waste from desanding
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than those mentioned in 19 12 06
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 13	Wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	Separately collected fractions (except 15 01)
20 01 38	wood other than that mentioned in 20 01 37
20 02	Garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 03	Other municipal wastes
20 03 03	street cleaning residues

Table S2.4 Permitted waste types and quantities for screening and handpicking, and storage of soils impacted with bonded asbestos cement (AR6, AR7)	
Maximum quantity	Annual throughput shall not exceed 50,000 tonnes for activities AR3, AR4, AR5, AR6, AR7, AR8, AR16
Waste code	Description
Exclusions	Wastes having any of the following characteristics shall not be accepted: Asbestos in unbound fibrous form (free chrysotile fibrous asbestos in the soil must be <0.1% w/w. Other forms or mixed forms of fibrous asbestos in the soil must be <0.01% w/w.)
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITE)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03* and 17 06 05*	soil and stones containing hazardous substances which are impacted with identifiable pieces of bonded asbestos (any particle of a size that can be identified as potentially being asbestos by a competent person, if examined by the naked eye)
17 05 04 and 17 06 05*	soil and stones other than those mentioned in 17 05 03 which are impacted with identifiable pieces of bonded asbestos (any particle of a size that can be identified as potentially being asbestos by a competent person, if examined by the naked eye)

Table S2.5 Raw materials and fuels	
Raw materials and fuel description	Specification
NPK fertilizers	50 tonnes storage maximum at any one time

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description	Limit	Monitoring frequency	Monitoring method
Phase 1: Two leachate monitoring points in addition to the collection sump for each hydraulically separate cell unless otherwise agreed in writing with the Agency.	3 m above cell base	Monthly	In accordance with Environment Agency document LFTGN02 (February 2003) 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water' or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Phase 2: Two leachate monitoring points in addition to the collection sump for each hydraulically separate cell unless otherwise agreed in writing with the Agency.	6 m above cell base		

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Engines 1-5 Landfill gas engine on Plan ESID4	Oxides of Nitrogen	Gas utilisation plant	650 mg/m ³	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	CO		1500 mg/m ³			
	Total VOCs		1750 mg/m ³			
A1: Flare on plan 116-1-3026/A dated 27/02/2006	Oxides of Nitrogen	Landfill Gas Flares	150 mg/m ³	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Monitoring is unnecessary where the flare is active for <10% of the year.
	CO		50 mg/m ³			
	Total VOCs		10 mg/m ³			

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Biofilter Monitoring Point as shown on plan 3695-CAU-XX-XX-DR-V-1801	Ammonia	Biofilter at Soil Treatment Facility	20 mg/m³	Hourly mean	Every six months	As agreed in writing with the Environment Agency.
	TVOCs		40 mg/m³			
	Hydrogen Sulphide		No Limit			
Asbestos screener emissions point (to be confirmed by pre-operational condition PO7)	Asbestos fibres	Air extraction system stack	0.1 fibre/ml	Hourly average	Monthly (Note 1, Note 2)	ISO 10397: 1993
	Particulate matter		5 mg/m³	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months (Note 2)	BS EN 13284-1
Note 1: May be reduced to a quarterly frequency after 12 monthly monitoring events with the written agreement of the Environment Agency. Note 2: To the extent possible, the measurements shall be carried out at the highest expected emission state under normal operating conditions.						

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
W1 On Plan ESID14 dated	Suspended Solids	Site drainage from the site surface water drainage system	75 mg/l	Spot Sample	Monthly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit</u> (www.gov.uk) or such other subsequent
	Oil or grease		No visible discharge	Spot Sample	Monthly	
	pH		>6 and <9	Spot Sample	Monthly	

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
August 2007	Volume		750 m ³ /day	24 hours	Monthly	guidance as may be agreed in writing with the Environment Agency
	Flow rate		20 l/s	Instantaneous	Monthly	
	Conductivity		No limit set	Spot Sample	Monthly	
	Ammoniacal Nitrogen		No limit set	Spot Sample	Monthly	
	Chloride		No limit set	Spot Sample	Monthly	
	DO		No limit set	Spot Sample	Monthly	
	Sulphate		No limit set	Spot Sample	Quarterly	
	Alkalinity (as CaCO ₃)		No limit set	Spot Sample	Quarterly	
	COD		No limit set	Spot Sample	Quarterly	
	TON		No limit set	Spot Sample	Quarterly	
	Na		No limit set	Spot Sample	Quarterly	
	K		No limit set	Spot Sample	Quarterly	
	Ca		No limit set	Spot Sample	Quarterly	
	Mg		No limit set	Spot Sample	Quarterly	
	Cr		No limit set	Spot Sample	Quarterly	

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
	Cd		No limit set	Spot Sample	Quarterly	
	Mn		No limit set	Spot Sample	Quarterly	
	Fe		No limit set	Spot Sample	Quarterly	
	Cu		No limit set	Spot Sample	Quarterly	
	Ni		No limit set	Spot Sample	Quarterly	
	Zn		No limit set	Spot Sample	Quarterly	
	Pb		No limit set	Spot Sample	Quarterly	
	Hg		No limit set	Spot Sample	Quarterly	
	List 1 substances identified in leachate, unless otherwise agreed in writing with the Environment Agency		No limit set	Spot Sample	Annually	

Table S3.4 Point source emissions to sewer, effluent treatment plant or by tankering or other transfer off-site – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Treated Process Water Monitoring Point as shown on Plan 3695-CAU-XX-XX-DR-V-1801	No parameters	Soil Treatment Facility	No limits	-	-	As agreed in writing with the Environment Agency

Table S3.5 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
GW5.01 as detailed on drawing number 124E232 dated February 2013	Ammoniacal Nitrogen	1.41 mg/l ¹	Spot Sample	Monthly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	225 mg/l ¹		Monthly	
	Mecoprop	0.04 µg/l ¹		Quarterly	
	Xylene	3.0 µg/l ¹		Quarterly	
	Trichlorobenzene	0.01 µg/l ¹		Quarterly	
GW08 as detailed on drawing number 124E232 dated February 2013	Ammoniacal Nitrogen	1.80 mg/l		Monthly	
	Chloride	410 mg/l		Monthly	
	Mecoprop	0.04 µg/l		Quarterly	
	Xylene	3.0 µg/l		Quarterly	
	Trichlorobenzene	0.01 µg/l		Quarterly	
1. Unless otherwise agreed in writing by the Environment Agency					

Table S3.6 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
BH1, BH2, BH5-BH18, BH22-BH35 as detailed on drawing no. 124E232 dated February 2013	Methane	1% v/v	Monthly	As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
	Carbon Dioxide	1.5% v/v		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Differential Pressure	No limit		
BH3, BH3.01, BH3.02, BH4.00, BH4.01 as detailed on drawing no. 124E232 dated February 2013	Methane	1% v/v		
	Carbon Dioxide	2% v/v		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Differential Pressure	No limit		
BH4.02 as detailed on drawing no. 124E232 dated February 2013	Methane	1% v/v		
	Carbon Dioxide	11.5% v/v		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Differential Pressure	No limit		
BH36, BH37, BH38.1, BH39.1, BH40.1, BH41-BH44 as detailed on drawing no. 124E232 dated February 2013	Methane	1% v/v		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Differential Pressure	No limit		
BH36 and BH37	Carbon Dioxide	1.5% v/v		
BH38.1	Carbon Dioxide	2.6% v/v		
BH39.1	Carbon Dioxide	5.5% v/v		

Table S3.6 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
BH40.1	Carbon Dioxide	3.3% v/v	Monthly	As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
BH41	Carbon Dioxide	3.0% v/v		
BH42	Carbon Dioxide	2.7% v/v		
BH43	Carbon Dioxide	2.2% v/v		
BH44	Carbon Dioxide	2.3% v/v		

Table S3.7 Particulate matter in ambient air - monitoring requirements					
Monitoring Point Ref. /Description	Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Dust monitoring points as detailed on drawing no.ESID14, dated August 2007	Deposited dust	200 mg/m ² /day	24 hours	Monthly	
	Suspended particulate PM10	None set	In accordance with correspondence ref: 402.0197.00423 dated 06/04/2006	In accordance with correspondence ref: 402.0197.00423 dated 06/04/2006	

Table S3.8 Landfill gas emissions from capped surfaces for cells that have accepted non-hazardous biodegradable waste – monitoring requirements			
Monitoring point Ref. /description	Parameter	Monitoring frequency	Monitoring Standard or method
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.8 Landfill gas emissions from capped surfaces for cells that have accepted non-hazardous biodegradable waste – monitoring requirements			
Monitoring point Ref. /description	Parameter	Monitoring frequency	Monitoring Standard or method
Temporarily capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Whole site	Total methane emission	As agreed with the Environment Agency	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Uncapped areas	Methane concentration	Every 12 months	As agreed with the Environment Agency based on the wording of revised LFTGN 07 or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.9 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances	Annually for first six years of operation	
Down or cross gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
MEPP	Base of monitoring point (mAoD)	Annually	

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste gas monitoring boreholes or sealed leachate wells or sacrificial gas extraction system	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly until gas extraction commences	Calibrated handheld monitoring instrument	For cells or phases which have no active gas extraction. Gas extraction system shall be installed and extraction commenced once monitoring shows onset of methane production in waste at a rate that can be sustainably extracted. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.
	Hydrogen sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (V3, March 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	For cells or phases which have no active gas extraction. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring. Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Gas flow rate or suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such other frequency as may be agreed in writing with the Environment Agency.	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken. Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertaken Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered
Gas collection system at well control valve	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, March 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Output to flare or LFG Utilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (v3, March 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency [or a trace gas characterisation method agreed with the Environment Agency].	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Output to flare or LFG Utilisation Compound	Methane Carbon Dioxide Oxygen Gas flow rate Suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Weekly		Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken.

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Flare 1 shown on Plan 3026/A dated 27/02/2006	Temperature	As per LFTGN05 (v2, March 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency.	
Gas engines 1-5, post turbo	NOx and CO	Quarterly	In accordance with Appendix C of LFTGN08, (v2, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	Where monitoring using hand-held, electrochemical equipment indicates an exceedance of the emissions standards specified in Table S3.2, these shall be used as action levels and the operator shall investigate the cause and take appropriate measures to reduce emissions.

Table S3.11 Leachate – other monitoring requirements				
Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Operational Cells or Phases (Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)			At leachate compliance point as listed in table S3.1.	
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency	None
MEPP	Hazardous substances	Annually		None
MEPP	Depth to base (mAoD)	Annually		None
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)				
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Annually		
MEPP	Hazardous substances	Once every four years		None
MEPP	Depth to base (mAoD)	Annually		

Table S3.12 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Ammoniacal nitrogen Chloride Suspended Solids Visual Oil and Grease pH electrical conductivity	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit</u> (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency

Table S3.13 Process monitoring requirements				
Monitoring Point	Substance or parameter	Monitoring frequency	Monitoring method	Other specifications
Biofilter Monitoring Point as shown on Plan 3695-CAU-XX-XX-DR-V-1801	Moisture content, flow rate, nutrient levels, contaminant elimination	As required	As required	Biofilter should be checked and maintained to ensure appropriate temperature and moisture content on a daily basis. Monitoring equipment shall be available on-site and used as required.

Table S3.14 Ambient air monitoring requirements					
Location or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Outside air testing when asbestos contaminated soils are being received, handled and moved within the site (points to be confirmed by pre-operational condition PO7)	Asbestos fibres	0.01 fibres/ml. Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present.	During receipt, handling and movement of asbestos contaminated soil within the site. 1 hour at 8 l/min or other agreed period in writing.	In line with M17 monitoring guidance. While asbestos contaminated soils are being received, handled and moved within the site. <ul style="list-style-type: none"> • Pumped sampling • 1 m above ground level • Flow rate = 8 litres/minute • Minimum sample volume = 480 litres • Filter pore size = 0.8-1.2 µm • Asbestos fibre limit of detection = 0.001 fibres/ml. 	-

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Leachate and/ or groundwater level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by schedule 3, table S3.2	Every 12 months	31 December
Point source emission to water (other than sewer) As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to sewer As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.5	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.6	Every 3 months	31 March, 30 June, 30 September, 31 December
Particulate matter in ambient air. As required by schedule 3, table S3.7	Every 6 months	30 June, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.8	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.9	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.10	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other leachate monitoring As specified by schedule 3, table S3.11	Every 12 months	31 December
Other surface water monitoring As specified by schedule 3, table S3.12	Every 12 months	31 December

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Process monitoring requirements As specified by Schedule 3, table S3.13	As agreed with the Environment Agency	31 December
Meteorological data Landfill Directive, annex III, section 2	Every 12 months	31 December
Ambient air monitoring Parameters as required by condition 3.5.	Every 12 months	31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2 Annual production/treatment	
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass. Accepted from offsite for treatment at any onsite effluent treatment plant.	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation. Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.9 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year % methane v/v m ³ /hr

Table S4.3 Performance Parameters			
Parameter	Frequency of assessment	Annual total	Unit
Energy used (including for leachate treatment)	Annually		MWh of electricity or natural gas

Table S4.4 Reporting Forms		
Media/parameter	Reporting Format	Date of Form
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Environment Agency	02/02/17
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	Version 1, 08/03/2021
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	02/02/17
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	02/02/17
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	02/02/17
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with the Environment Agency	02/02/17
Waste Return	Waste Return Form RATS2E	02/02/17
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	02/02/17
Ambient air monitoring	Ambient Air Monitoring Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021

Schedule 5 – Notification

This page outlines the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B to be supplied as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“annually” means once every year.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“Background concentration” means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

(3) “Cell layout drawing” means: A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:

- (i) the location of the new cell on the site;
- (ii) the proposed level (Above Ordnance Datum) of the base of the excavation;
- (iii) the proposed finished levels of all containment and leachate drainage layers;
- (iv) the positions of leachate management infrastructure; and
- (v) the positions of landfill gas infrastructure (if appropriate).

(4) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:

- (i) changes to slope length and gradient within the cell;
- (ii) new leachate or landfill gas infrastructure construction design;
- (iii) slope stability issues such as new basal excavation level; and/or
- (iv) depth of waste.

“Construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the New Cell or Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the New Cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- “As-built” plans and sections of the works;
- Copies of the site engineer’s daily records;
- Records of any problems or non-compliances and the solution applied;

- Any other site specific information considered relevant to proving the integrity of the New Cell or Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154 and words and expressions used in this permit which are also used in those Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

‘Hazardous property’ has the meaning in Annex III of the Waste Framework Directive.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675, schedule 22 and listed in our Hydrogeological risk assessment guidance, annex J to our H1 risk assessment guidance.

‘Hazardous waste’ has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“Landfill Infrastructure” means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;
- lining within the installation.

within the site.

“Liquids” means any liquid other than leachate within the engineered landfill containment system.

“List of Wastes” means the list of wastes established by Commission Decision [2000/532/EC](#) replacing Decision [94/3/EC](#) establishing a list of wastes pursuant to Article 1(a) of Council Directive [75/442/EEC](#) on waste and Council Decision [94/904/EC](#) establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive [91/689/EEC](#) on hazardous waste, as amended from time to time.

“LFTGN 05” means Environment Agency Guidance for monitoring enclosed landfill gas flares.

“LFTGN 07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

“LFTGN 08” means Environment Agency Guidance for monitoring landfill gas engines.

“Groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"Inert waste" means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

"Medicinal product" means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or their predecessors under the Medicines Act 1968, section 130.

"MEPP" Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

"M2" means Environment Agency Guidance Monitoring of stack emissions to air.

"New Cell" means any new cell, part of a cell or other similar new area of the site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"No impact" means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

"Pests" means Birds, Vermin and Insects.

"Previous year" means the 12 month period preceding the month the annual report is submitted in.

"quarter" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"Relevant waste acceptance procedures" means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

"Relevant waste acceptance criteria" means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

"Review of the Hydrogeological Risk Assessment" means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

‘Sustainably extracted’ means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

‘Waste code’ - See ‘List of Wastes’.

“WFD” means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste [and repealing certain Directives] – the Waste Framework Directive.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08.

Where the following terms appear in the waste code list in Tables S2.1 or S2.2 they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008;

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘polychlorinated biphenyls and polychlorinated terphenyls’ (‘PCBs’) means PCBs as defined in Article 2(a) of Council Directive 96/59/EC’.

Article 2(a) says that ‘PCBs’ means:

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 % by weight;

‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

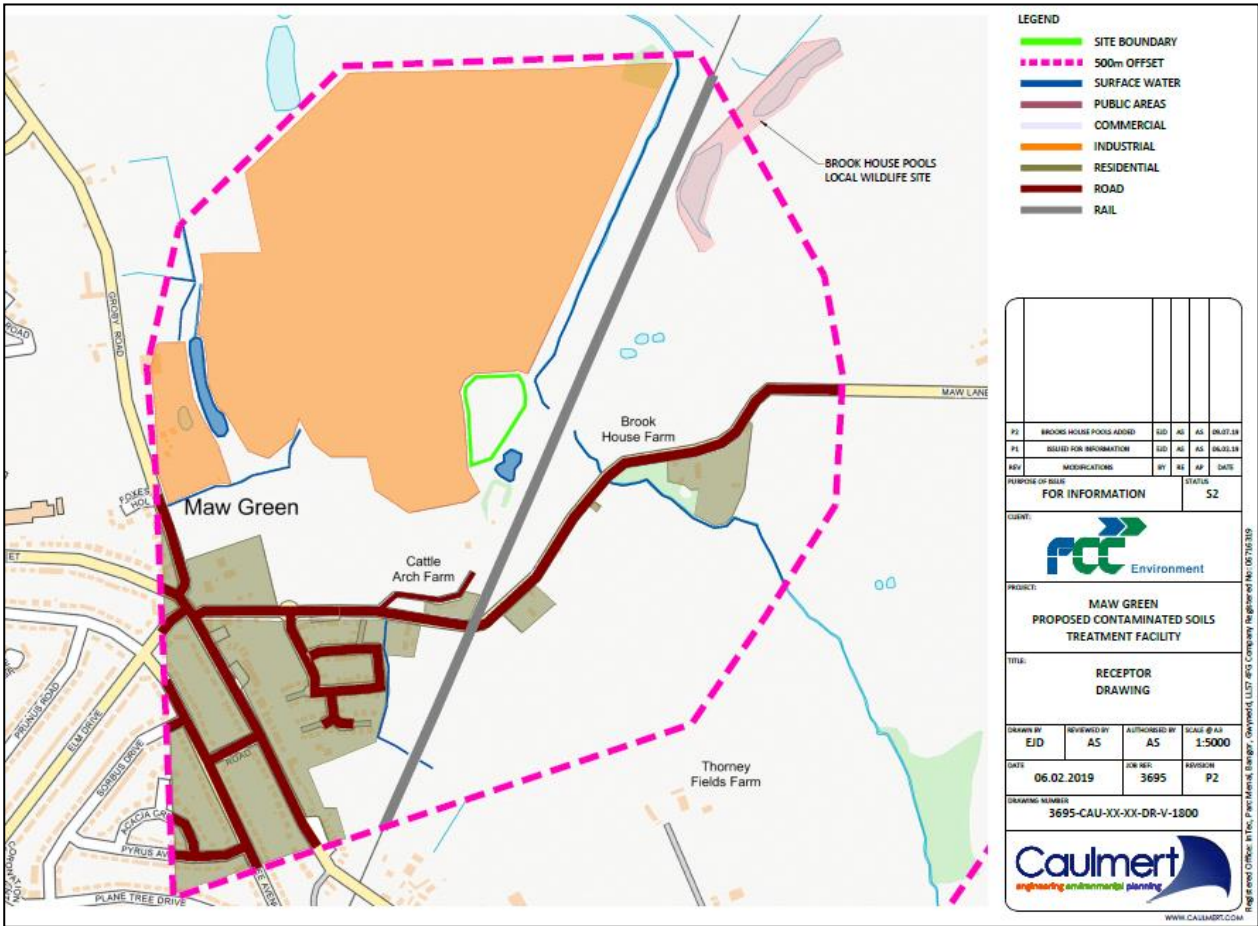
‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7

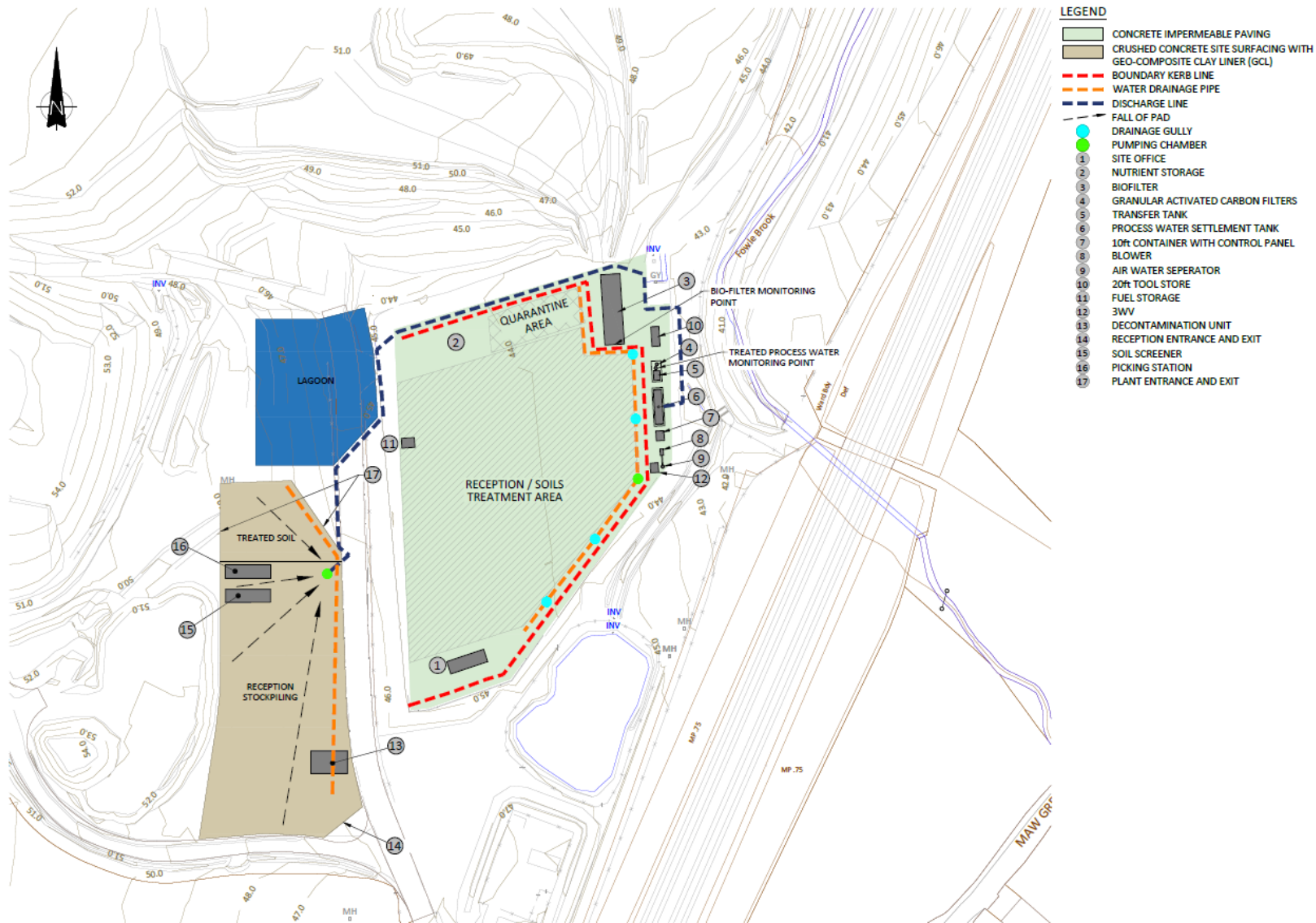
Site boundary plan



“© Crown Copyright. All rights reserved. Environment Agency, 100024198, 2023.”



Site layout plan



END OF PERMIT

Ambient Air Monitoring Form

Permit number: [EPR/AB1234CB]

Operator: [A Company Name Limited]

Facility name: [Unit A, Anytown]

Ambient Air Monitoring Form: version 1, 08/03/2021

Reporting of monitoring ambient air for the period from [DD/MM/YY] to [DD/MM/YY]

Monitoring point	Substance / parameter	Compliance limit	Reference period	Test method ¹	Result ²	Sample dates and times ³	Uncertainty ⁴
[e.g. P1]	[e.g. PM ₁₀ suspended particulate matter]	[e.g. 50 µg/m ³]	[24 hour average]	[e.g. BS EN 12341:2014]	[State result]	[State relevant dates and time periods]	[State uncertainty if not 95% confidence interval]

Signed: *[Name]*

Date: *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

Guidance for use: Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

- ¹ Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
- ² Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
- ³ For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.

Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

Emissions to Air Reporting Form

Permit number: [EPR/AB1234CB]

Operator: [A Company Name Limited]

Facility name: [Unit A, Anytown]

Emissions to Air Reporting Form: version 1, 08/03/2021

Reporting of emissions to air for the period from [DD/MM/YY] to [DD/MM/YY]

Emission point	Substance / parameter	Emission Limit Value	Reference period	Test method ¹	Result ²	Sample dates and times ³	Uncertainty ⁴
[e.g. A1]	[e.g. Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)]	[e.g. 200 mg/m ³]	[e.g. daily average]	[e.g. BS EN 14181]	[State result]	[State relevant dates and time periods]	[State uncertainty if not 95% confidence interval]

Signed: [Name]

Date: [DD/MM/YY]

(Authorised to sign as representative of the operator)

Guidance for use: Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

- ¹ Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
- ² Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
- ³ For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.
- ⁴ Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

Certificate of Registration under the Waste (England and Wales) Regulations 2011

Regulation authority

Name



Address

National Customer Contact Centre
99 Parkway Avenue
Sheffield
S9 4WF

Telephone number

03708 506506

The Environment Agency certify that the following information is entered in the register which they maintain under regulation 28 of the Waste (England and Wales) Regulations 2011.

Carriers details

Name of registered carrier

OCTANE HOLDING GROUP LIMITED

Registered as

An upper tier waste carrier and dealer

Registration number

CBDU163736

Address of place of business

OCTANE HOLDING GROUP LTD
OCTANE HOUSE UNIT D
PEACE STREET
BRADFORD
BD4 8UF

Telephone number

01132012460

Date of registration

3 April 2023

Expiry date of

registration (unless
revoked)

12 April 2026

Making changes to your registration

Your registration will last 3 years and will need to be renewed after this period. If any of your details change, you must notify us within 28 days of the change.

Certificate of Registration under the Waste (England and Wales) Regulations 2011

Regulation authority

Name



Address

National Customer Contact Centre
99 Parkway Avenue
Sheffield
S9 4WF

Telephone number

03708 506506

The Environment Agency certify that the following information is entered in the register which they maintain under regulation 28 of the Waste (England and Wales) Regulations 2011.

Carriers details

Name of registered carrier

W. MAHER AND SONS LTD

Registered as

An upper tier waste carrier and dealer

Registration number

CBDU90617

Address of place of business

W MAHER & SONS LTD
MANCHESTER ROAD
WARRINGTON
WA3 6EW

Telephone number

0161 776 2200

Date of registration

14 February 2022

Expiry date of registration (unless revoked)

25 March 2025

Making changes to your registration

Your registration will last 3 years and will need to be renewed after this period. If any of your details change, you must notify us within 28 days of the change.

**David Jones
Clwyd House
Blackwood Business Park,
Ash Road South
Wrexham
LL13 9UG**

Date: 14/07/2021

Dear Sir/Madam,

Clwyd Transport Services Ltd. is registered as an upper tier waste carrier, broker or dealer with Natural Resources Wales under The Waste (England and Wales) Regulations 2011.

Business or organisation details

Clwyd House Blackwood Business Park
Ash Road South
Wrexham
LL13 9UG

This is proof of your registration

- Contact name: David Jones
- Telephone number: 01978660022
- Your registration number is: CBDU3337
- Registered on: 14/07/2021
- Expiry date: 16/08/2024

Upper tier registration

You are registered as an upper tier waste carrier, broker or dealer under The Waste (England and Wales) Regulations 2011 because you have declared that you meet one of the following criteria:

- You deal with waste from other businesses or households
- You supply a waste disposal service
- You transport construction or demolition waste

Copy Cards



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

Canolfan Gofal Cwsmeriad
Cyfoeth Naturiol Cymru, 29 Heol
Casnewydd, Caerdydd, CF24 0TP
Customer Care Centre, Natural
Resources Wales, 29 Newport Rd,
CF24 0TP
Ffôn/Phone: 0300 065 3000

Please note – Our staff are now home working wherever possible. This means there is a pause on processing copy cards. We will process all copy cards purchased, but there will be delay in receiving your card(s).

Legal responsibilities for waste

If you produce, carry, import, keep, treat or dispose of waste you have a legal 'duty of care' for that waste. This also applies if you carry or manage waste for other people. The purpose of this duty of care is to protect the environment and human health from the harm that might be posed by mismanagement of waste.

Anyone dealing with waste must abide by the code of practice which includes steps such as keeping it safe, completing the documentation needed for each transfer (the 'transfer note') and only passing it to businesses authorised to take it. The responsibilities are laid out in the code of practice available here:

<https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice>

Your registration details can be viewed online via our public register page here:

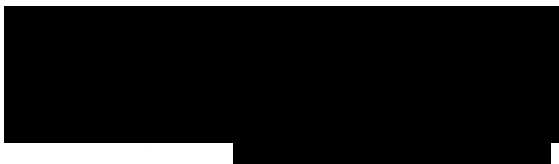
<https://naturalresources.wales/permits-and-permissions/check-for-a-permit-licence-or-exemption/?lang=en>

Please contact Natural Resources Wales if you have any enquiries.

- Telephone: 03000 653000
- Email: enquiries@naturalresourceswales.gov.uk

Yours sincerely

Helen Florek – Oughton



Customer Care Centre Manager



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix G

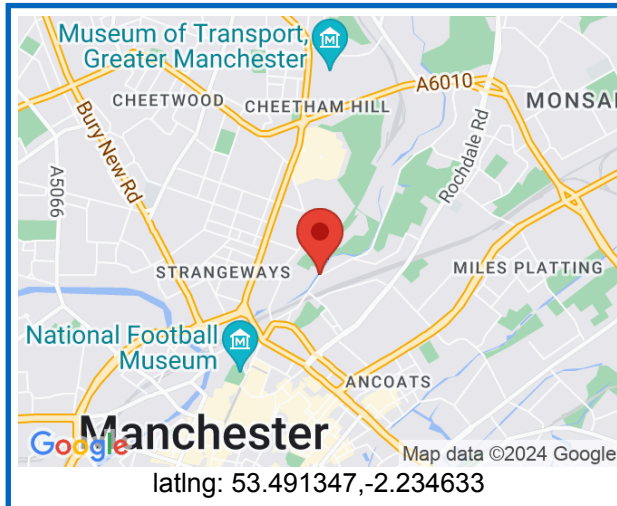
Asbestos air monitoring results

- **28th June**
- **10th July**
- **22nd July**

Asbestos Analyst's Certificate Report

Job Ref No: **636158**, Cert Ref No: **106848**, Account Ref No: **20000**, Contract Ref No: **117525**

Dantzic Street, Manchester, M4 4DD



on site photo



general works area photo

Building	Level	Works-Area	Enclosure Used?	Certificate Issue Date
Dantzic Street		Reassurances ran during land remediation work	No	Wednesday, 10th July, 2024

Head Office
7 Halifax Court, Dunston,
Gateshead, NE11 9JT
E: enquiries@lucionservices.com
T: 0345 5040 303

Issuing Office:
LS - North West & Yorkshire
Preston Brook - Lucion Services
Ltd, 5 Abbots Park, Preston Brook,
Runcorn, WA7 3GH

Intro

This certificate is for the attention of

Tony Walton
Provectus Remediation Limited
200 Brook Drive, RG2 6UB

Sampling & Evaluation Methods

In-house methods TOP02.08 & TOP02.09 in accordance with HSG 248 Asbestos - The Analyst's Guide to Sampling, Analysis and Clearance Procedures.

Notes: The samples referred to in this report will be retained for 6 months unless requested otherwise. Unless otherwise stated, there are no departures from the sampling and evaluation methods specified. Results detailed in this report relate only to the time, and corresponding conditions prevailing, when the sampling and examination were undertaken.

Notes to Test Accuracy

Airflow measured on site is recorded against a correction chart. Flow meters are calibrated against a UKAS certified master flow meter accurate to $\pm 0.5\%$. In accordance with HSG248, if the combined effect of ambient temperature and pressure between calibration and sampling location exceeds 5% a correction is applied to the air sample volume. The calculated fibre concentration is given for each air sample taken. Where the corresponding reported fibre concentration is preceded by "<", the lower limit of quantification (LOQ) of the method has not been reached. For a 480 litre air sample with 200 graticule areas counted, the (LOQ) of this method is 0.010 fibres per cubic centimetre of air; samples of less volume/graticules will be reported to a lower LOQ (refer count sheet, and for example, for personal sampling against the 4 hour control limit the LOQ is 0.04 fibres per cubic centimetre and against the 10 minute control limit the LOQ is 0.24 fibres per cubic centimetre). While counting randomly distributed fibres, an expected degree of variation of 1.5 standard deviations from the mean count may occur. At clearance indicator level (0.01 fibres per cubic centimetre of air) a 480-litre air sample yielding a count of 20 fibres over 200 fields would have an expected standard deviation of ± 8 fibres.

Note: the reported result is for respirable fibres and not solely asbestos fibres.

Sampling

When testing within an Enclosure and conducting a 4-Stage Clearance - the number of samples (Ns) is calculated by $A^{1/3-1}$. Where enclosure is less than 3m in height: A is denoted by area. Where enclosure is greater than 3m in height: A is denoted by volume/3. Refer air sampling and fibre counting sheet.

When testing within a decontamination unit (DCU) - where the combined floor area of shower and dirty areas is less than 10m²; 1 air test has been carried out. During this test the door between these areas has been propped open. For combined floor areas exceeding 10m² a sample in each area (i.e. shower and dirty end) will be taken.

For tests other than those associated with 4-Stage Clearance testing the analyst will apply the principles of current HSE guidance and experience combined with situational circumstances.

Where a photograph of the completed decontamination unit certificate appears in this report the analyst has completed an abridged report to be left inside the DCU; this abridged report should not be used in lieu of this comprehensive report.

Where sampling plans have been supplied; please note these are not to scale.

Where a sample filter has been deemed uncountable or biased the analyst will record this as "uncountable" in the count-sheet.

Field Blanks - Where site sampling and counting is carried out in a field laboratory a field blank is carried out by the analyst prior to the start of sampling and counting. The field blank constitutes a filter taken from a loaded but unused filter head that is mounted in the usual way and assigned a sample number which is recorded on the slide and the count sheet. Following sampling and analysis of the air tests, the results shall be assessed; where low counts ($<0.01 \text{ fcm}^{-3}$) are obtained from some of the field samples, analysis of the field blank will not be necessary. Where elevated counts ($>0.01 \text{ fcm}^{-3}$) are obtained on all field samples, then the field blank must be counted to exclude the possibility of contamination.

Disclaimers

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Representatives Signature - The signatory on report acknowledgement agrees to findings of this report being accurate and correct and Lucion Services Ltd issuing this report to the email address held on record for the job and does not require a copy of this report to be left on site. Furthermore Lucion Services Ltd cannot be held responsible for any actions undertaken following the issue of this report.

This certificate *may* be part of a series of works and should be read in conjunction with the Asbestos Analyst's Job Summary Report.

Report Contents

Test: Reassurance (636158-3)5

 Sample: Pump adjacent site cabins (636158-3-1)6

 Sample: Pump on perimeter of fence (636158-3-2)6

 Sample: Pump on soil mound (636158-3-3)6

 Sample: Pump located at corner of site adjacent rail bridge (636158-3-4)6

Test: Reassurance (636158-5)7

 Sample: Pump adjacent site cabins (636158-5-1)8

 Sample: Pump on perimeter of site near fence (636158-5-2)8

 Sample: Pump on soil mound (636158-5-3)8

 Sample: Pump located on corner of site near rail bridge (636158-5-4)8

Test: Reassurance (636158-3)

Number of samples being taken	4
Samples prepared at	van NJ20JAU
Samples counted at	van NJ20JAU
Is enclosure / work area free of debris and waste	Yes
Stage Warning?	No
Analyst Signature Signature Date	 Wednesday, 10th July, 2024 @ 14:16:55
Analyst Name	Gareth Markey

Test: Reassurance (636158-3) - Count Sheet

Lucion Report Number		Test Date		Sampled By		Counted By										
636158-3		Wednesday, 10th July, 2024		Gareth Markey		Gareth Markey										
Air Volume Correction Detail (Not applicable in the UK).																
T Cal (K)		T Site (C)		T Pcal (hPa)												
293		10		1013												
Microscope & Calculation Detail																
P Site (hPa)	Correction Required	Micro No.		Graticule Dia (µm)		Test Slide Result (Grid No.)		Filter Dia. Exposed (mm)								
1013	1	1431		100		5		22.5								
Instrument Detail																
Thermometer, Barometer		Timepiece		Flow (Hi)		Flow (Low)		HSE/NPL		Graticule Slide						
N/A		0		2826		421		1775		1671						
Sample Details																
Sample No.	Sample Location	Head No.	Pump No.	Time On (hh:mm)	Time Off (hh:mm)	Run Time (mins)	Start Flow (lmin-1)	Int Flow (lmin-1)	End Flow (lmin-1)	Calc. Volume (l)	Corr. Volume (l)	Fibres	Fields	LoQ (f/ml)	Calc. Conc. (f/ml)	Report. Conc. (f/ml)
636158-3-1	Pump adjacent site cabins	1852	828	11:55:51	12:55:51	60	8.0	8.0	8.0	480	480	3.0	200	0.010	0.002	<0.010
636158-3-2	Pump on perimeter of fence	1853	870	11:56:29	12:56:29	60	8.0	8.0	8.0	480	480	2.5	200	0.010	0.001	<0.010
636158-3-3	Pump on soil mound	5899	1084	11:58:04	12:58:04	60	8.0	8.0	8.0	480	480	4.0	200	0.010	0.002	<0.010
636158-3-4	Pump located at corner of site adjacent rail bridge	2202	5944	12:00:59	13:00:59	60	8.0	8.0	8.0	480	480	2.0	200	0.010	0.001	<0.010

Test: Reassurance (636158-5)

Number of samples being taken	4
Samples prepared at	van NJ20JAU
Samples counted at	van NJ20JAU
Is enclosure / work area free of debris and waste	Yes
Stage Warning?	No
Analyst Signature Signature Date	<div></div> Monday, 22nd July, 2024 @ 13:32:20
Analyst Name	Gareth Markey

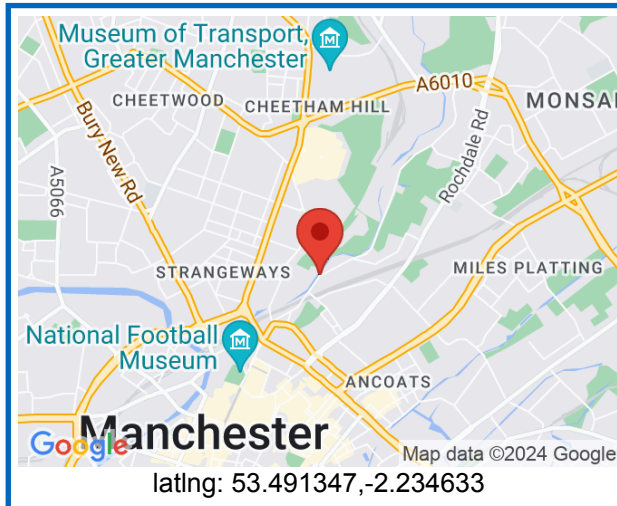
Test: Reassurance (636158-5) - Count Sheet

Lucion Report Number		Test Date		Sampled By		Counted By										
636158-5		Monday, 22nd July, 2024		Gareth Markey		Gareth Markey										
Air Volume Correction Detail (Not applicable in the UK).																
T Cal (K)		T Site (C)		T Pcal (hPa)												
293		20		1013												
Microscope & Calculation Detail																
P Site (hPa)	Correction Required	Micro No.	Graticule Dia (µm)	Test Slide Result (Grid No.)		Filter Dia. Exposed (mm)										
1013	1	1431	100	5		22.5										
Instrument Detail																
Thermometer, Barometer	Timepiece	Flow (Hi)	Flow (Low)	HSE/NPL		Graticule Slide										
N/A	0	2826	421	1775		1671										
Sample Details																
Sample No.	Sample Location	Head No.	Pump No.	Time On (hh:mm)	Time Off (hh:mm)	Run Time (mins)	Start Flow (lmin-1)	Int Flow (lmin-1)	End Flow (lmin-1)	Calc. Volume (l)	Corr. Volume (l)	Fibres	Fields	LoQ (f/ml)	Calc. Conc. (f/ml)	Report. Conc. (f/ml)
636158-5-1	Pump adjacent site cabins	5899	1084	11:33:30	12:33:30	60	8.0	8.0	8.0	480	480	2.5	200	0.010	0.001	<0.010
636158-5-2	Pump on perimeter of site near fence	2202	5944	11:34:04	12:34:02	60	8.0	8.0	8.0	480	480	1.5	200	0.010	0.001	<0.010
636158-5-3	Pump on soil mound	1852	828	11:35:45	12:35:45	60	8.0	8.0	8.0	480	480	2.0	200	0.010	0.001	<0.010
636158-5-4	Pump located on corner of site near rail bridge	1853	870	11:37:10	12:37:10	60	8.0	8.0	8.0	480	480	1.5	200	0.010	0.001	<0.010

Asbestos Analyst's Certificate Report

Job Ref No: **636158**, Cert Ref No: **106553**, Account Ref No: **20000**, Contract Ref No: **117525**

Dantzic Street, Manchester, M4 4DD



on site photo



general works area photo

Building	Level	Works-Area	Enclosure Used?	Certificate Issue Date
Dantzic Street	999	Reassurance air monitoring during land remediation	No	Friday, 28th June, 2024

Head Office
7 Halifax Court, Dunston,
Gateshead, NE11 9JT
E: enquiries@lucionservices.com
T: 0345 5040 303

Issuing Office:
LS - North West & Yorkshire
Preston Brook - Lucion Services
Ltd, 5 Abbots Park, Preston Brook,
Runcorn, WA7 3GH

Intro

This certificate is for the attention of

Tony Walton
Provectus Remediation Limited
200 Brook Drive, RG2 6UB

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In-house methods TOP02.08 & TOP02.09 in accordance with HSG 248 Asbestos - The Analyst's Guide to Sampling, Analysis and Clearance Procedures.

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Report Contents

Test: Reassurance (636158-1)5

 Sample: On site right side from cabins (636158-1-1)8

 Sample: Atop of the mounded earth opposite site cabins (636158-1-2)8

 Sample: Within the cabins compound (636158-1-3)8

 Sample: At the gate entrance at the top of site (636158-1-4)8

 Sample: Field Blank (636158-1-5)8

Test: Reassurance (636158-2)9

 Sample: NT02 area south West (636158-2-1)12

 Sample: On-site Adjectent to Cabins (636158-2-2)12

 Sample: Top of mound opposite to the cabins (636158-2-3)12

 Sample: Field Blank (636158-2-4)12

 Sample: At the top of the site near Gate A entrance (636158-2-5)12

Test: Reassurance (636158-4)13

 Sample: Down from Gate A entrance (636158-4-1)14

 Sample: Upon a mound of earth opposite site cabins (636158-4-2)14

 Sample: Adjacent to spill area at the site cabins (636158-4-3)14

 Sample: NT02 area (636158-4-4)14

 Sample: Field Blank (636158-4-5)14

Test: Reassurance (636158-1)

Number of samples being taken	4
Samples prepared at	Van NJ72PKV
Samples counted at	Van NJ72PKV
Is enclosure / work area free of debris and waste	No
Enclosure Work Area Debris Free Photo	<div><p>Image Added: 2024-06-28 08:50:24</p><p>General debris present from the ongoing works taking place.</p></div>
Stage Warning?	No
Analyst Signature Signature Date	<div><p>Friday, 28th June, 2024 @ 08:50:18</p></div>
Analyst Name	Mike Castro

[table continued from previous page...](#)

Additional Photo 1



Image Added: 2024-06-28 10:00:37

Test 001

Additional Photo 2



Image Added: 2024-06-28 10:03:57

Test 002

Additional Photo 3



Image Added: 2024-06-28 10:07:14

Test 003

[table continued from previous page...](#)

Additional Photo 4



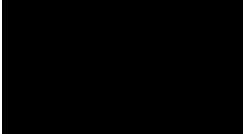
Image Added: 2024-06-28 10:09:37

Test 004

Test: Reassurance (636158-1) - Count Sheet

Lucion Report Number		Test Date		Sampled By		Counted By										
636158-1		Friday, 28th June, 2024		Mike Castro		Mike Castro										
Air Volume Correction Detail (Not applicable in the UK).																
T Cal (K)		T Site (C)		T Pcal (hPa)												
293		13		1013												
Microscope & Calculation Detail																
P Site (hPa)	Correction Required	Micro No.	Graticule Dia (µm)	Test Slide Result (Grid No.)	Filter Dia. Exposed (mm)											
1013	1	1418	100	5	22.5											
Instrument Detail																
Thermometer, Barometer	Timepiece	Flow (Hi)	Flow (Low)	HSE/NPL	Graticule Slide											
N/A	8030	279	380	1830	1696											
Sample Details																
Sample No.	Sample Location	Head No.	Pump No.	Time On (hh:mm)	Time Off (hh:mm)	Run Time (mins)	Start Flow (lmin-1)	Int Flow (lmin-1)	End Flow (lmin-1)	Calc. Volume (l)	Corr. Volume (l)	Fibres	Fields	LoQ (f/ml)	Calc. Conc. (f/ml)	Report. Conc. (f/ml)
636158-1-1	On site right side from cabins	3893	892	10:00:28	11:00:56	60	8.0		8.0	480	480	1.5	200	0.010	0.001	<0.010
636158-1-2	Atop of the mounded earth opposite site cabins	3703	800	10:02:39	11:02:52	60	8.0		8.0	480	480	3.0	200	0.010	0.002	<0.010
636158-1-3	Within the cabins compound	3704	5180	10:04:31	11:04:40	60	8.0		8.0	480	480	0.5	200	0.010	<0.001	<0.010
636158-1-4	At the gate entrance at the top of site	3892	951	10:08:01	11:08:22	60	8.0		8.0	480	480	5.0	200	0.010	0.003	<0.010
636158-1-5	Field Blank	2159														

Test: Reassurance (636158-2)

Number of samples being taken	4
Samples prepared at	Van NJ24 OAP
Samples counted at	Van NJ24 OAP
Is enclosure / work area free of debris and waste	No
Enclosure Work Area Debris Free Photo	 <p>Image Added: 2024-07-03 10:16:51</p>
Stage Warning?	No
Analyst Signature Signature Date	 <p>Wednesday, 3rd July, 2024 @ 13:01:45</p>
Analyst Name	Alex greenwood

[table continued from previous page...](#)

Additional Photo 1



Image Added: 2024-07-03 10:38:22

NT02 South West area

Additional Photo 2



Image Added: 2024-07-03 10:53:27

Near cabins

Additional Photo 3



Image Added: 2024-07-03 10:54:33

Top of mound

[table continued from previous page...](#)

Additional Photo 4



Image Added: 2024-07-03 11:40:16

Near Gate A entrance

Test: Reassurance (636158-2) - Count Sheet

Lucion Report Number		Test Date		Sampled By		Counted By										
636158-2		Wednesday, 3rd July, 2024		Alex Greenwood		Alex Greenwood										
Air Volume Correction Detail (Not applicable in the UK).																
T Cal (K)		T Site (C)		T Pcal (hPa)												
293		16		1013												
Microscope & Calculation Detail																
P Site (hPa)	Correction Required	Micro No.		Graticule Dia (µm)		Test Slide Result (Grid No.)		Filter Dia. Exposed (mm)								
1013	1	1444		100		5		22.5								
Instrument Detail																
Thermometer, Barometer		Timepiece		Flow (Hi)		Flow (Low)		HSE/NPL		Graticule Slide						
N/A				2814		3901		6874		66						
Sample Details																
Sample No.	Sample Location	Head No.	Pump No.	Time On (hh:mm)	Time Off (hh:mm)	Run Time (mins)	Start Flow (lmin-1)	Int Flow (lmin-1)	End Flow (lmin-1)	Calc. Volume (l)	Corr. Volume (l)	Fibres	Fields	LoQ (f/ml)	Calc. Conc. (f/ml)	Report. Conc. (f/ml)
636158-2-1	NT02 area south West	1943	872	10:37:02	11:25:26	48	10.0		10.0	480	480	1.5	200	0.010	0.001	<0.010
636158-2-2	On-site Adjacent to Cabins	1941	742	10:53:04	11:25:16	32	15.0		15.0	480	480	2.0	200	0.010	0.001	<0.010
636158-2-3	Top of mound opposite to the cabins	1942	5157	10:56:12	11:44:39	48	10.0		10.0	480	480	2.0	200	0.010	0.001	<0.010
636158-2-4	Field Blank	1940														
636158-2-5	At the top of the site near Gate A entrance	1944	872	11:33:12	12:21:34	48	10.0		10.0	480	480	3.0	200	0.010	0.002	<0.010

Test: Reassurance (636158-4)

Samples prepared at	Van NJ72PKV
Samples counted at	Van NJ72PKV
Is enclosure / work area free of debris and waste	No General debris present from the excavation works taking place on site
Enclosure Work Area Debris Free Photo	 Image Added: 2024-07-18 09:23:35
Stage Warning?	No
Analyst Name	Mike Castro

Test: Reassurance (636158-4) - Count Sheet

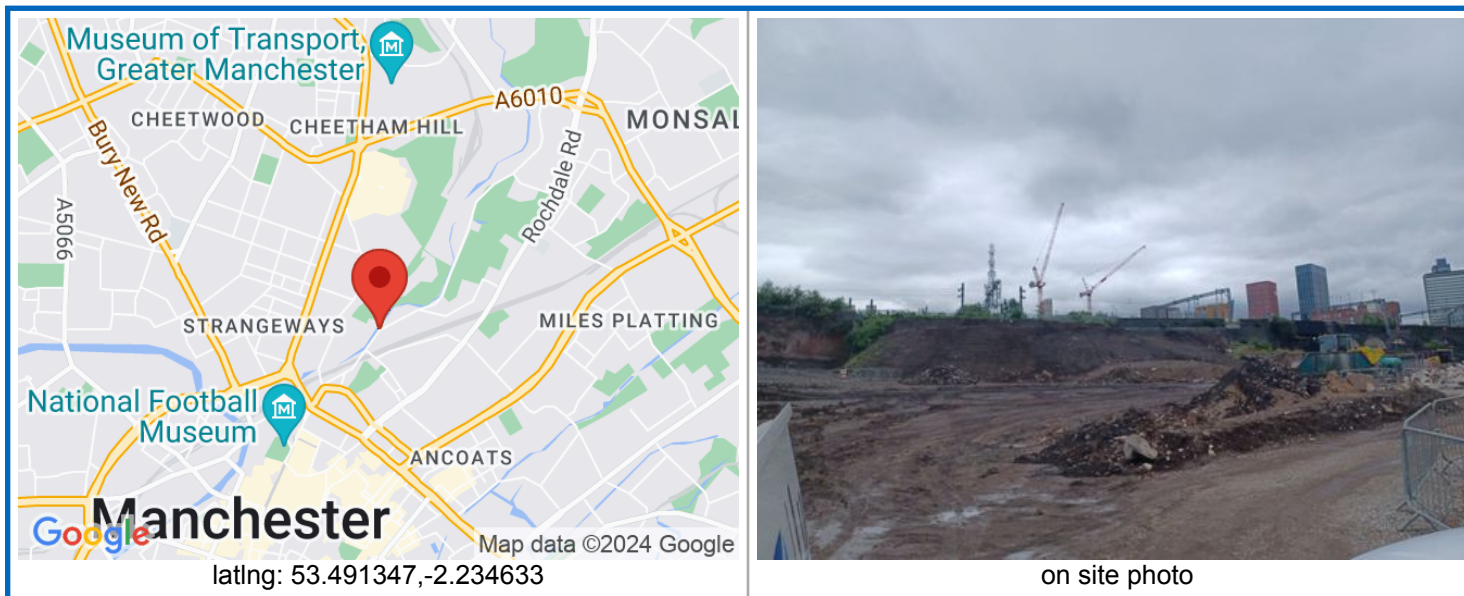
Lucion Report Number		Test Date		Sampled By		Counted By										
636158-4		Thursday, 18th July, 2024		Mike Castro		Mike Castro										
Air Volume Correction Detail (Not applicable in the UK).																
T Cal (K)		T Site (C)		T Pcal (hPa)												
293		19		1013												
Microscope & Calculation Detail																
P Site (hPa)	Correction Required	Micro No.		Graticule Dia (µm)		Test Slide Result (Grid No.)		Filter Dia. Exposed (mm)								
1013	1	1418		100		5		22.5								
Instrument Detail																
Thermometer, Barometer		Timepiece		Flow (Hi)		Flow (Low)		HSE/NPL		Graticule Slide						
N/A		8030		279		380		1830		1696						
Sample Details																
Sample No.	Sample Location	Head No.	Pump No.	Time On (hh:mm)	Time Off (hh:mm)	Run Time (mins)	Start Flow (lmin-1)	Int Flow (lmin-1)	End Flow (lmin-1)	Calc. Volume (l)	Corr. Volume (l)	Fibres	Fields	LoQ (f/ml)	Calc. Conc. (f/ml)	Report. Conc. (f/ml)
636158-4-1	Down from Gate A entrance	3703	892	09:30:44	10:30:57	60	8.0		8.0	480	480	1.0	200	0.010	0.001	<0.010
636158-4-2	Upon a mound of earth opposite site cabins	3704	951	09:33:25	10:33:38	60	8.0		8.0	480	480	2.5	200	0.010	0.001	<0.010
636158-4-3	Adjacent to spill area at the site cabins	3892	962	09:36:26	10:36:36	60	8.0		8.0	480	480	0.5	200	0.010	<0.001	<0.010
636158-4-4	NT02 area	3893	5180	09:38:02	10:38:19	60	8.0		8.0	480	480	2.0	200	0.010	0.001	<0.010
636158-4-5	Field Blank	2245														

Asbestos Analyst's Job Summary Report

Job Ref No: **636158**, Account Ref No: **20000**, Contract Ref No: **117525**

Dantzic Street, Manchester, M4 4DD

Title: Boundary air monitoring



First Visit to Site: Friday, 28th June, 2024, **Last Visit to Site:** Monday, 22nd July, 2024

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Intro

This document is a summary of findings relating to asbestos analytical works at **Dantzic Street, Manchester, M4 4DD** from **Friday, 28th June, 2024** to **Monday, 22nd July, 2024**. It is intended to give an overview of testing and must be read only in conjunction with the certificates it references. The document should never be read in isolation as asbestos analysts reports often contain additional notes and advice that should be referred to.

A report is provided electronically via the NexGen web-portal. Rendering of the report will create a unique pdf version identified in the footer of the document where date and time of rendering is recorded. Document history can be reviewed via the 'View File History' when viewing the report online. Prior to commencing any works or review of the report, the most current version should be obtained via the link to the NexGen web-portal; any local pdf copies should not be relied on as containing the most current information.

As per the client's specification, materials previously identified as containing asbestos (by other asbestos consultancies) have had this positive identification transferred to this report. Lucion Services Ltd cannot accept any liability for errors in this information.

Furthermore, this document contains a summary of analyst notes and comments made in relation to works at this site.

Please note this document may contain findings from more than one analyst on more than one date.

Key to Air-Test Icons

To aid ease of reading the following icons have been used in this document to reference commonly undertaken activities.

-  Clearance Stage 1
-  Clearance Stage 2
-  Clearance Stage 3
-  Clearance Stage 4
-  Statement of Cleanliness Inspection
-  DCU Stage 2
-  DCU Stage 3
-  Far Source Air Test
-  Near Source Air Test
-  Reassurance
-  Background
-  Leak Testing
-  Personal
-  Smoke Test Witness
-  Field Blank
-  LARC Enclosure Handover
-  Report Acknowledgement

A **WARNING** is used by the analyst to draw the readers attention to a particular area of the report.

Overview of Works

To view a complete air-certificate, follow the relevant link

Certificate: Reassurance air monitoring during land remediation

Building: Dantzic Street

Level: 999

View the Full Certificate Here: https://web.lucion.co.uk/print/air_cert/106553?s=c403f19846b390c163a7db93afe48862

Type	Test-ID	Start Time	End Time	Date	Operative	# Samples	
 Reassurance	636158-1			28-06-2024	 Mike Castro	5	
 Reassurance	636158-2			03-07-2024	 Alex Greenwood	5	
 Reassurance	636158-4			18-07-2024	 Mike Castro	5	

Certificate: Reassurances ran during land remediation work

Building: Dantzic Street

Level:

Passed

View the Full Certificate Here: https://web.lucion.co.uk/print/air_cert/106848?s=3c2689057f3e350786f54cc923f1fdf1

Type	Test-ID	Start Time	End Time	Date	Operative	# Samples	
 Reassurance	636158-3			10-07-2024	 Gareth Markey	4	
 Reassurance	636158-5			22-07-2024	 Gareth Markey	4	

Job Notes

Operative		Note	Date
	Alex Greenwood <i>Analyst</i>	AG on site was inducted and met with site supervisor Dave Knapp. Liaised with Dave, went over the RAMs, and the location of the pumps needed on site. Air test results returned satisfactory and below qualifications limit. AG off-site with completion of works.	Wednesday, 3rd July, 2024
	Mike Castro <i>Senior Surveyor/Analyst</i>	MC on site, reassurance air monitoring carried out in the prearranged areas. All tests returning satisfactory and below the limit of quantification.	Thursday, 18th July, 2024

Attachments

The following documents accompany this report and should be regarded as an integral part of this report.

They can be downloaded from <https://web.lucion.co.uk/reports/636158/attachments>.

- [Method Statement \[https://web.lucion.co.uk/print/method_statements/636158?s=ed59644258fd37e423d353499936c5d0 \]](https://web.lucion.co.uk/print/method_statements/636158?s=ed59644258fd37e423d353499936c5d0)
- [Risk Assessment \[https://web.lucion.co.uk/print/risk_assessment/636158?s=6afa260d48fdd3899942f0bad35fcb7f \]](https://web.lucion.co.uk/print/risk_assessment/636158?s=6afa260d48fdd3899942f0bad35fcb7f)



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix H

Perimeter dust monitoring results

CERTIFICATE OF ANALYSIS



Environmental Science

MULTI-SAMPLE
REPORT REFERENCE
11865-1

REGISTERED
DATE
29/07/2024

RECEIVED
DATE
29/07/2024

ANALYSIS
STARTED
30/07/2024

ANALYSIS
COMPLETE
01/08/2024

LABORATORY

i2 Analytical
Croxley Green Business Park
7 Woodshots Meadow
Watford
WD18 8YS

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE	101221	END DATE SAMPLED	08/07/2024
CLIENT SITE	Victoria North	PO NUMBER	11181
DATE SAMPLED (DD/MM/YY)	22/05/2024		

Matrix: Water

Determinand	Technique	LOD	Accreditation	i2 Sample Number	817224	817225	817226	817227
				Sample Reference	MP1	MP2	MP3	MP4
Rate of Dust Deposition	T487	0.0 mg/m2/day	None	204	39.5	97.2	53.6	
Total Solids (mass)	T487	10.0 mg	None	388	75.2	185	102	
Total Solids (volume)	T487	0.001 l	None	0.940	0.740	2.420	4.630	

Technical Reviewer Role

Mrs Kathryn Holt	Senior Customer Service Advisor
Yacub Mohamed	Customer Service Advisor

Extra Testing Information

Technique Code	Technique Name	Samples
T487	L004B-Grav	817224, 817225, 817226, 817227

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	817224, 817225, 817226, 817227

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.

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

This is a simplified test report

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

Results in black are positive/detected results. Results in gray are below the LOD or have not been found.

LOD = Limit of Determination. This is the lowest reportable limit of the test.

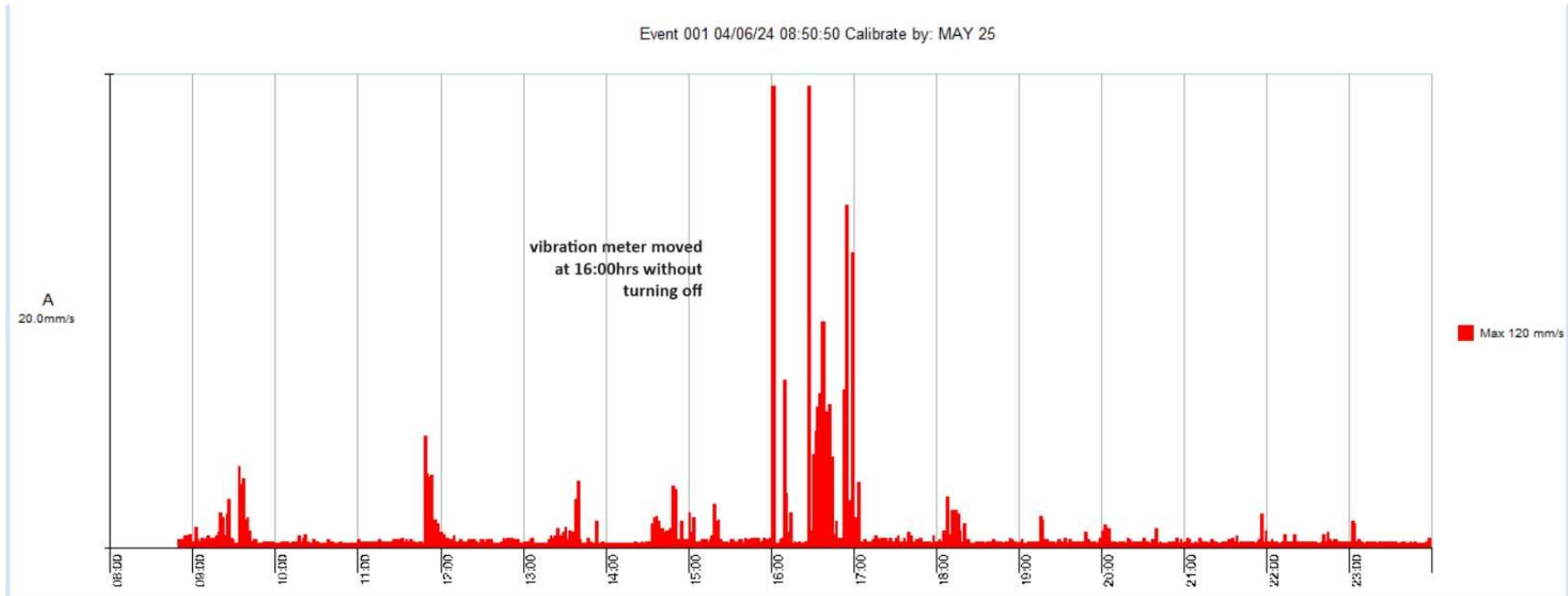
The multi-sample report reference takes the form of [job number]-[version number].



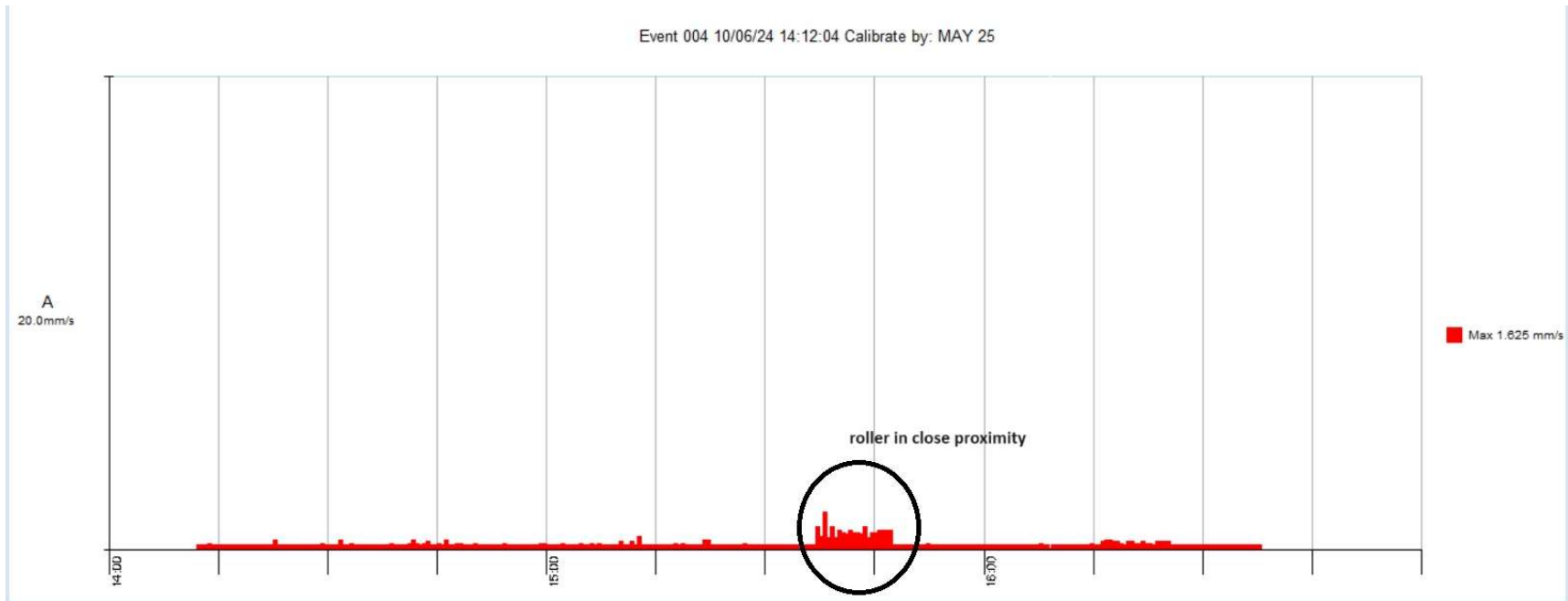
Victoria North NT02 to NT04

Factual report covering works April to October 2024

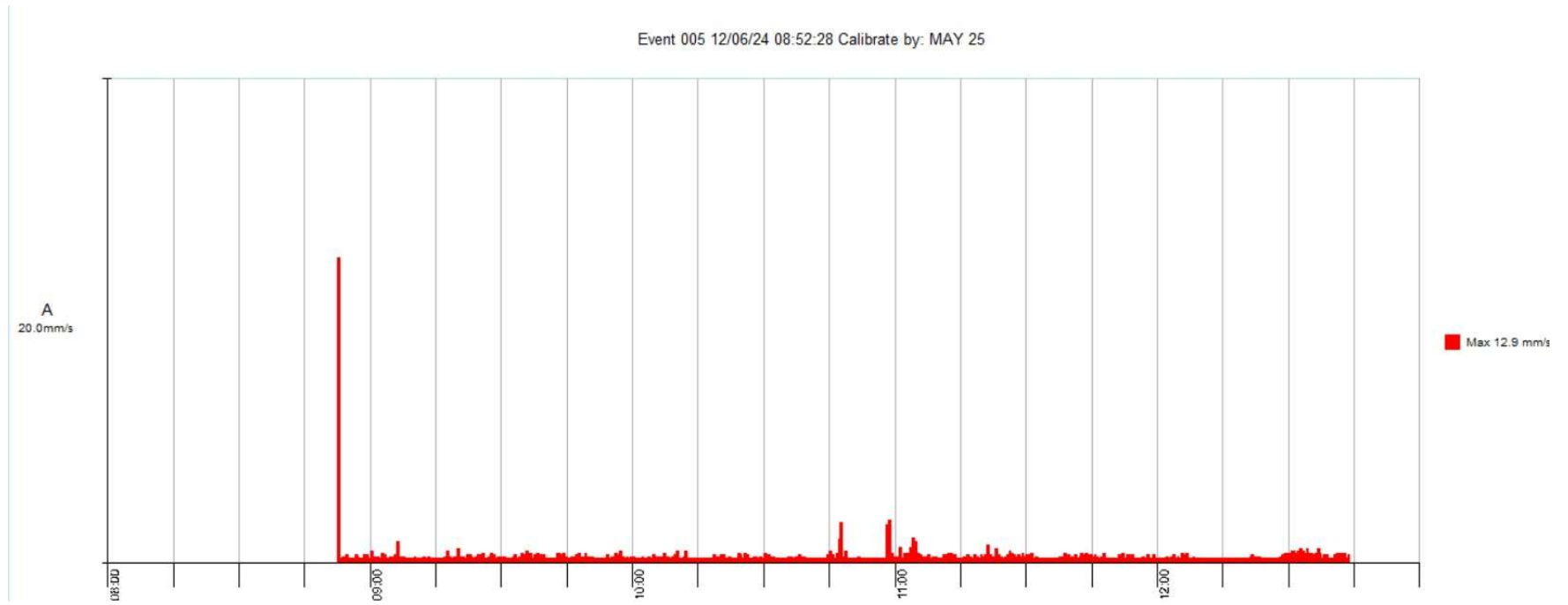
Appendix I Vibration results



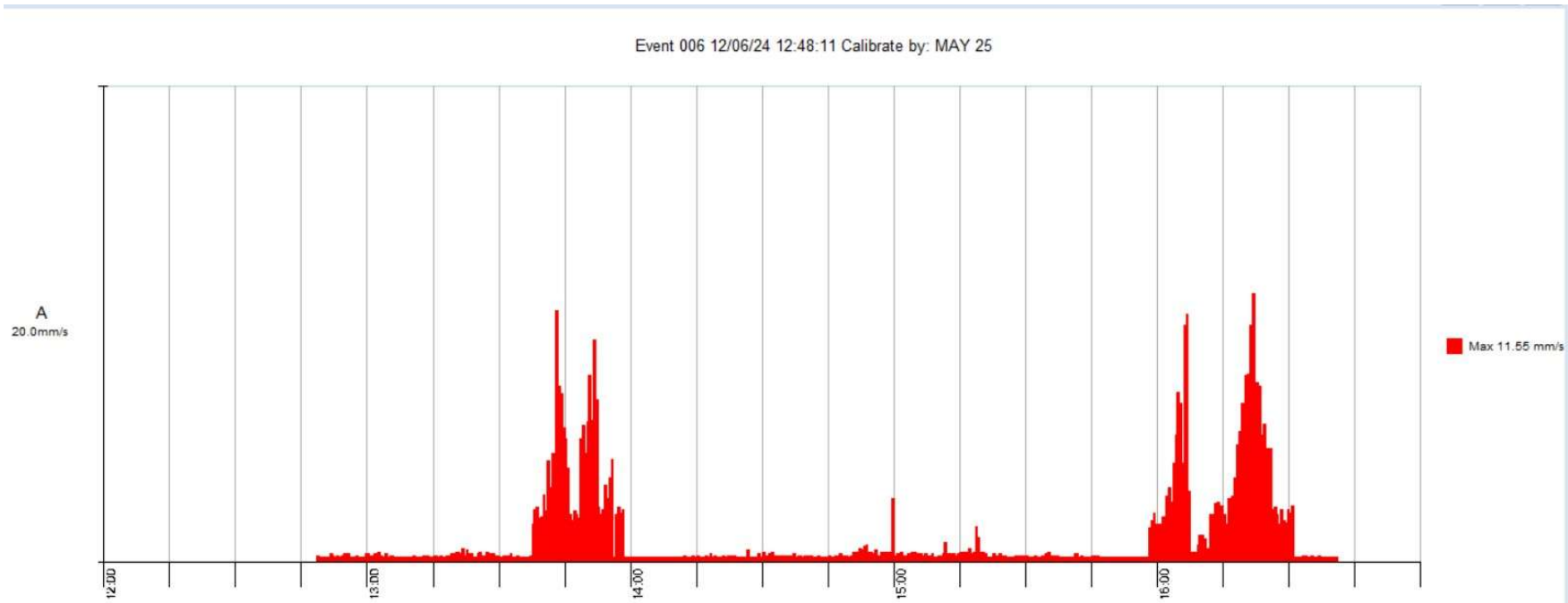
Seismometer by railway viaduct, NT04



Seismometer by railway viaduct, NT04



Seismometer next to garage retaining wall in TCE area at S end of NT02



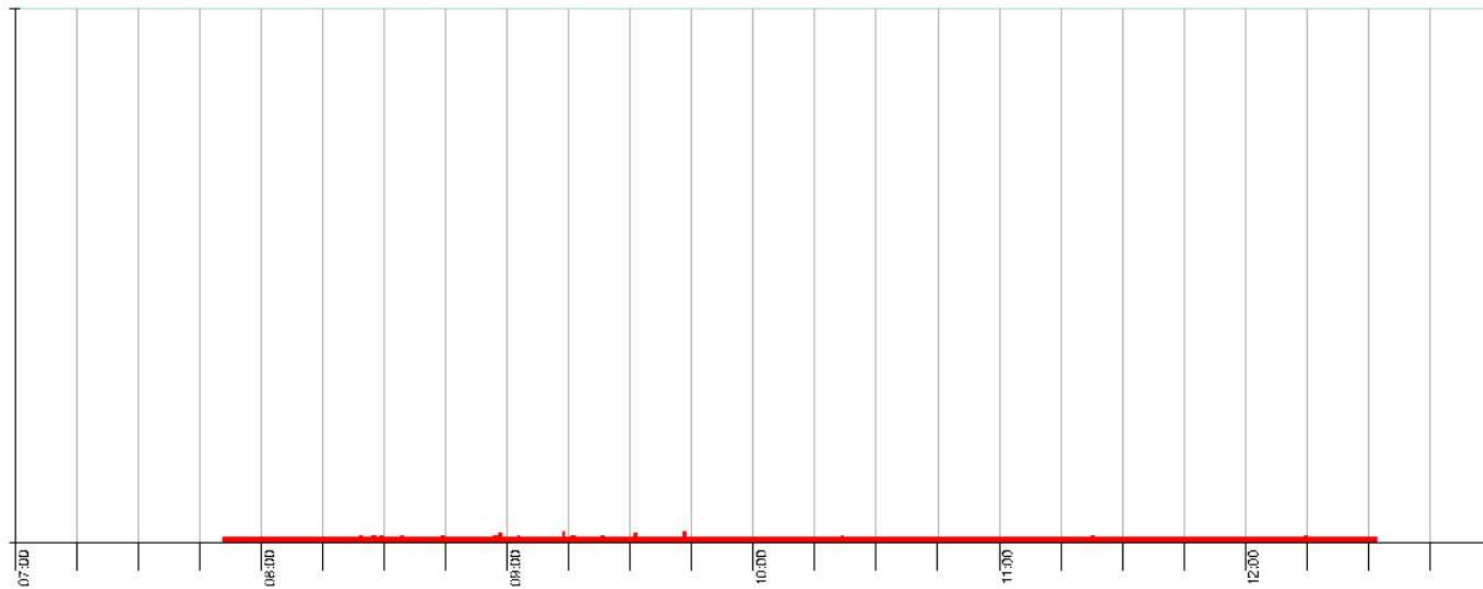
Seismometer by railway viaduct, NT04



Event 007 13/06/24 07:50:29 Calibrate by: MAY 25

A
20.0mm/s

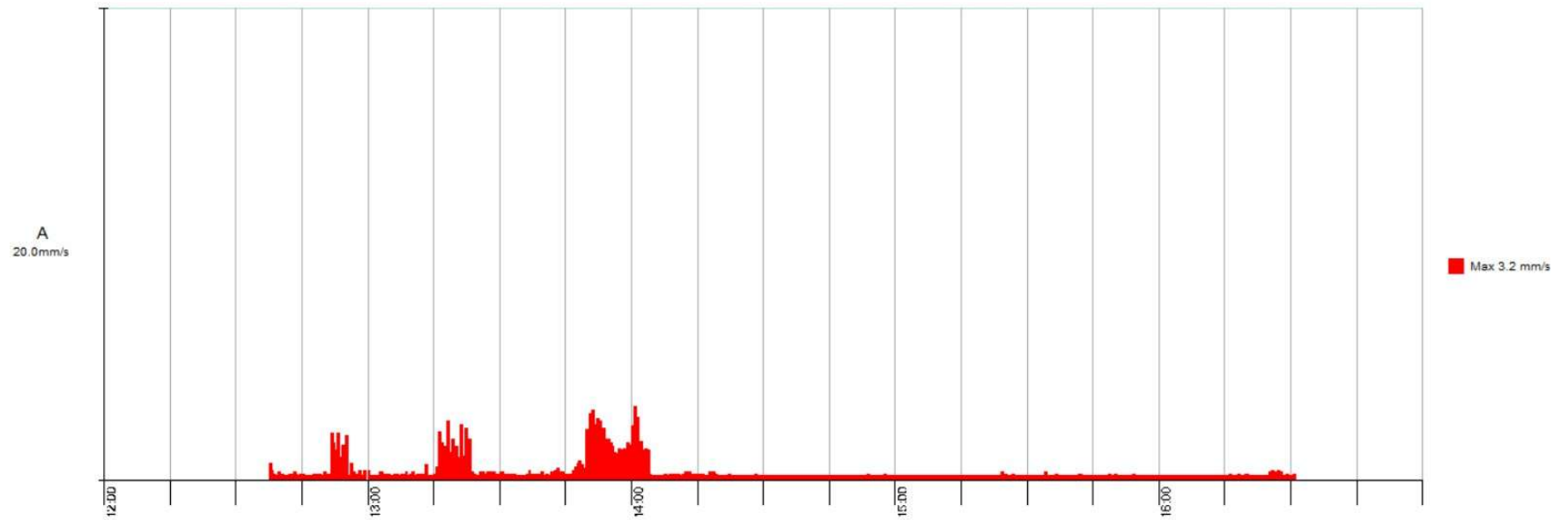
Max 0.425 mm/s



Seismometer by garage retaining wall NT02



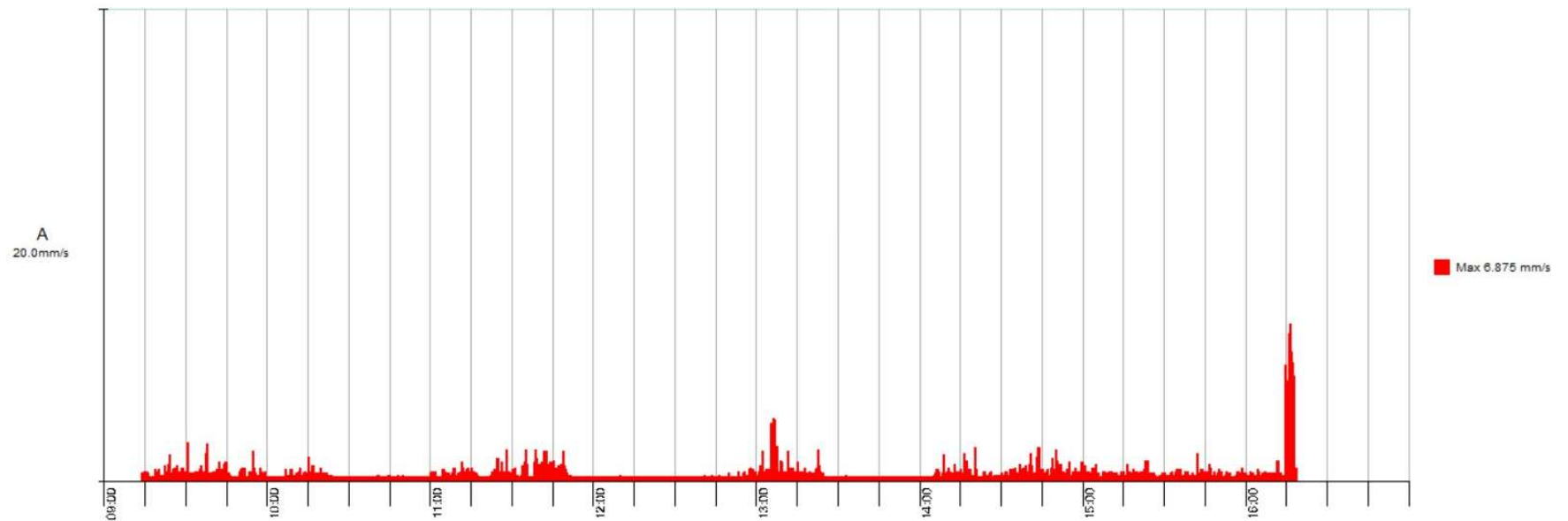
Event 008 13/06/24 12:37:35 Calibrate by: MAY 25



Seismometer by garage retaining wall, NT02



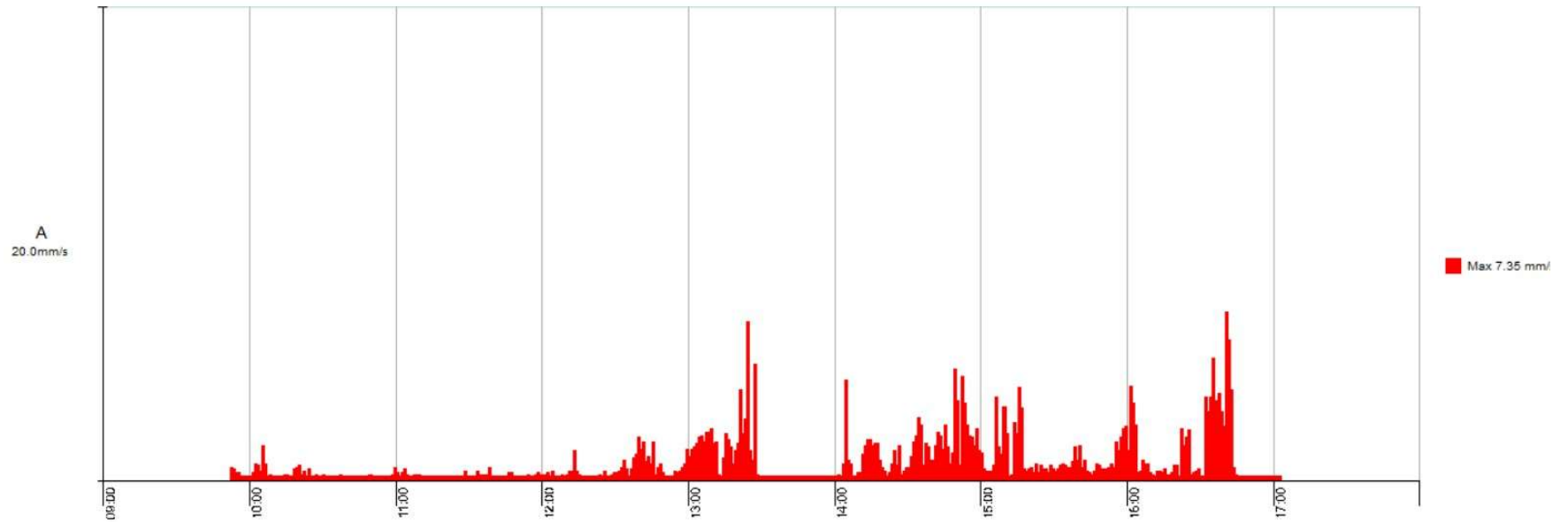
Event 009 17/06/24 09:13:10 Calibrate by: MAY 25



Seismometer by viaduct retaining wall, NT04



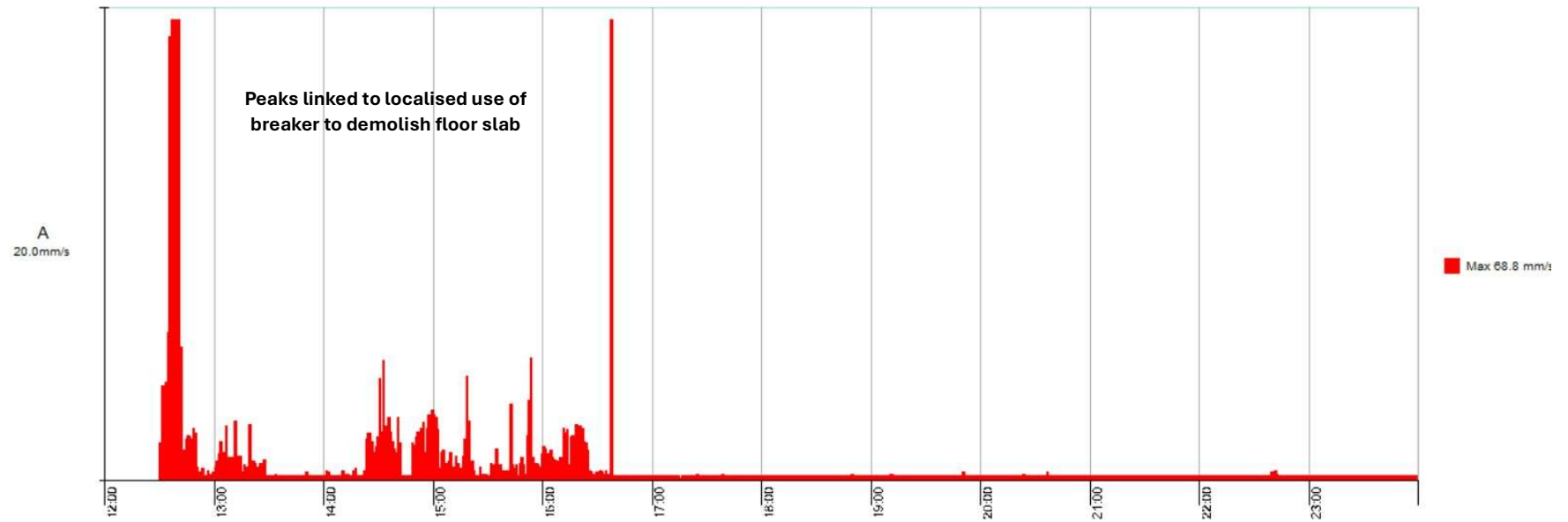
Event 010 18/06/24 09:52:44 Calibrate by: MAY 25



Seismometer on concrete plinth by MP gas main during works to remove five chambered tank



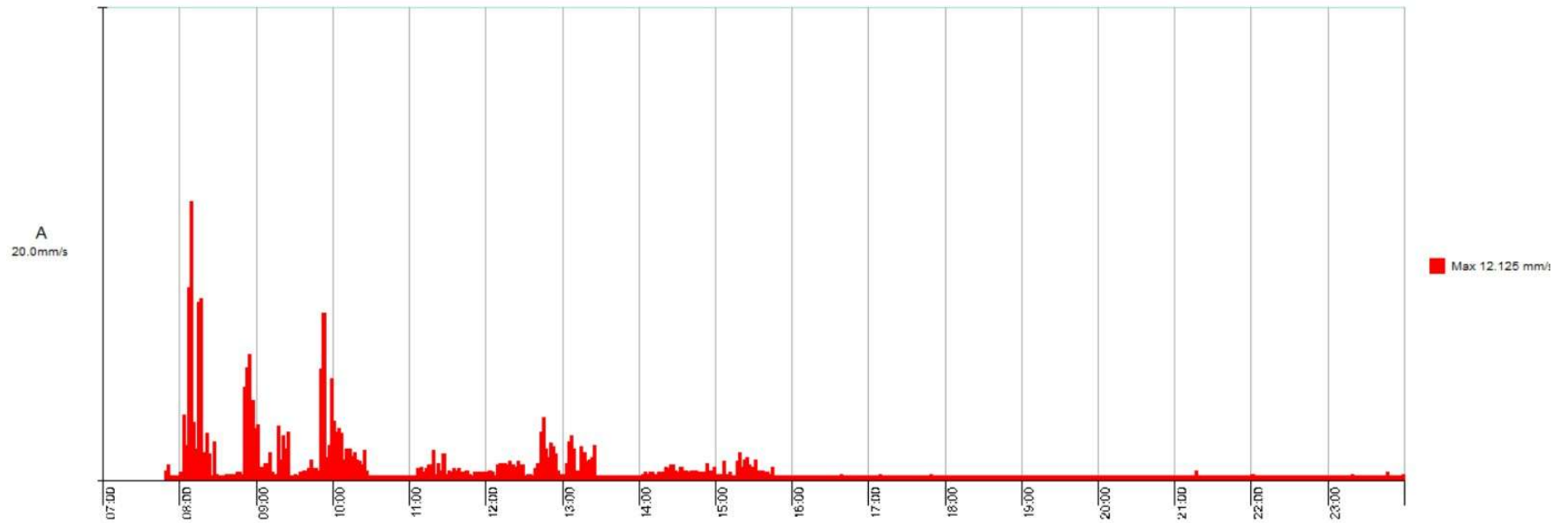
Event 011 19/06/24 12:30:44 Calibrate by: MAY 25



Seismometer on NT02 western boundary next to retaining wall near "NT02 tank"



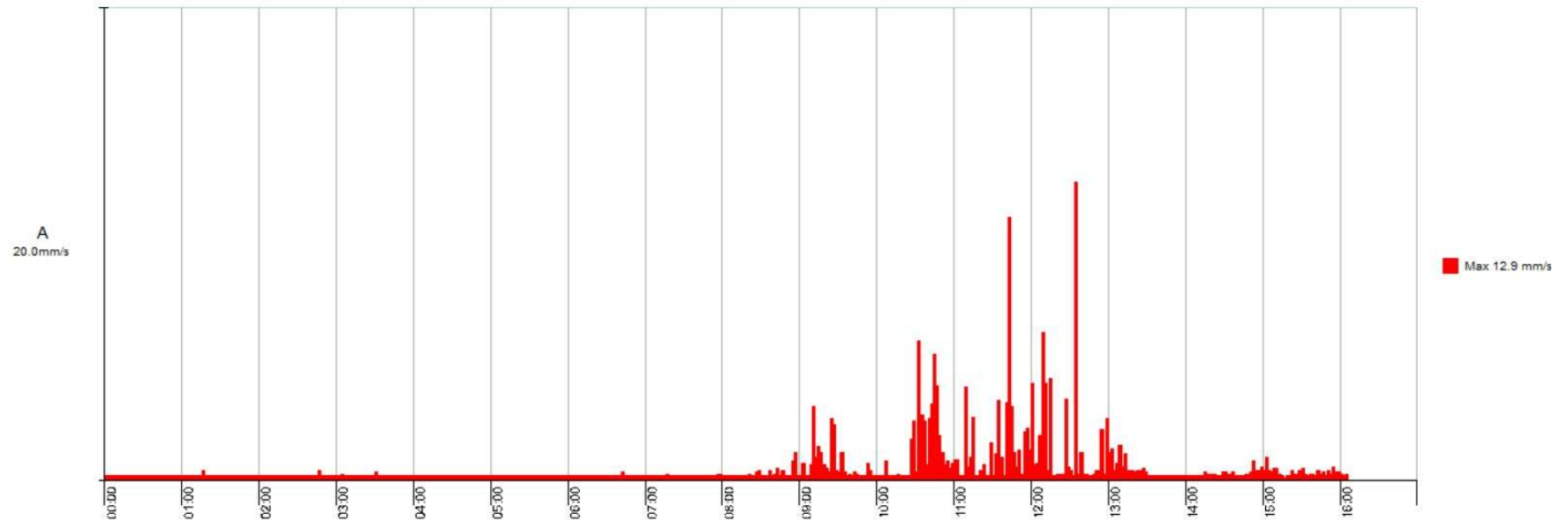
Event 013 20/06/24 07:49:53 Calibrate by: MAY 25



Seismometer on NT02 western boundary next to retaining wall near “NT02 tank”



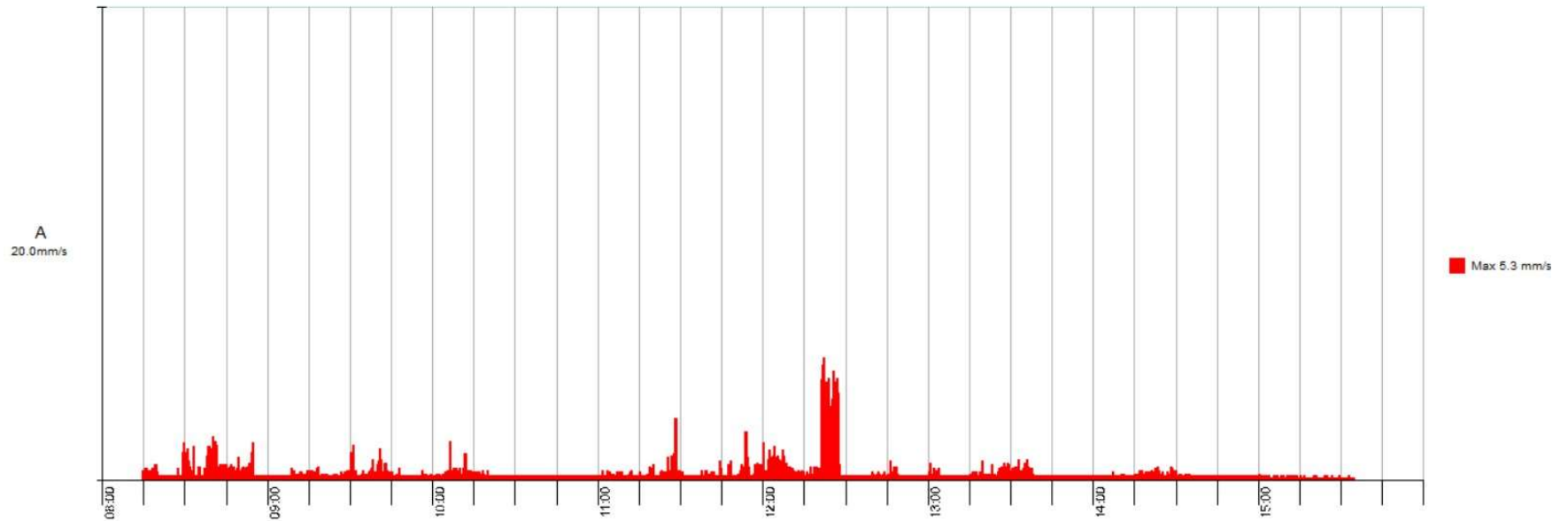
Event 014 21/06/24 00:00:00 Calibrate by: MAY 25



Seismometer on NT02 western boundary next to retaining wall near “NT02 tank”



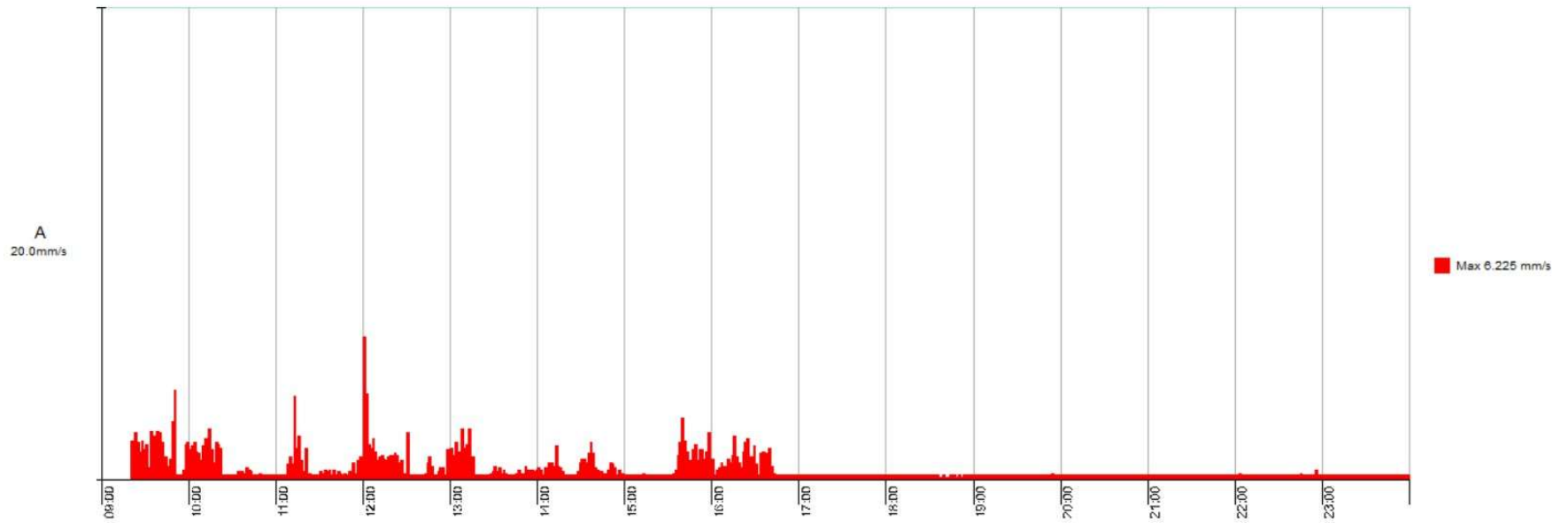
Event 015 25/06/24 08:14:00 Calibrate by: MAY 25



Seismometer on NT02 western boundary next to retaining wall near “NT02 tank”



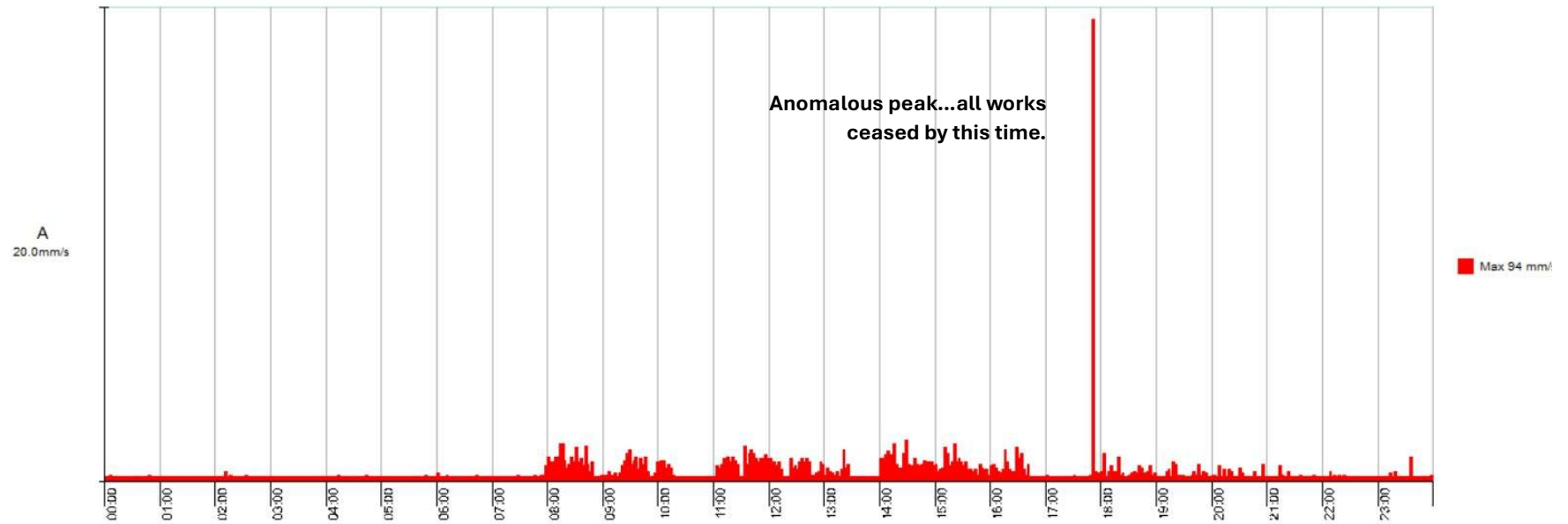
Event 016 26/06/24 09:19:29 Calibrate by: MAY 25



Seismometer on NT03 southern boundary with railway viaduct during upfill and compaction works



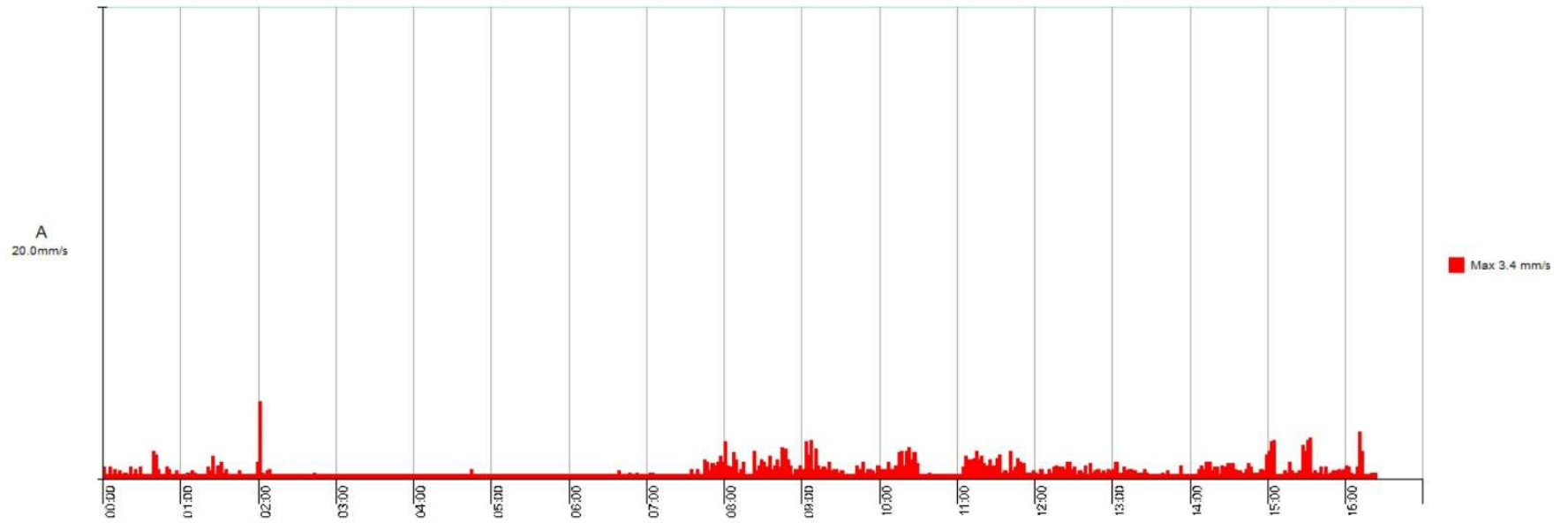
Event 017 27/06/24 00:00:00 Calibrate by: MAY 25



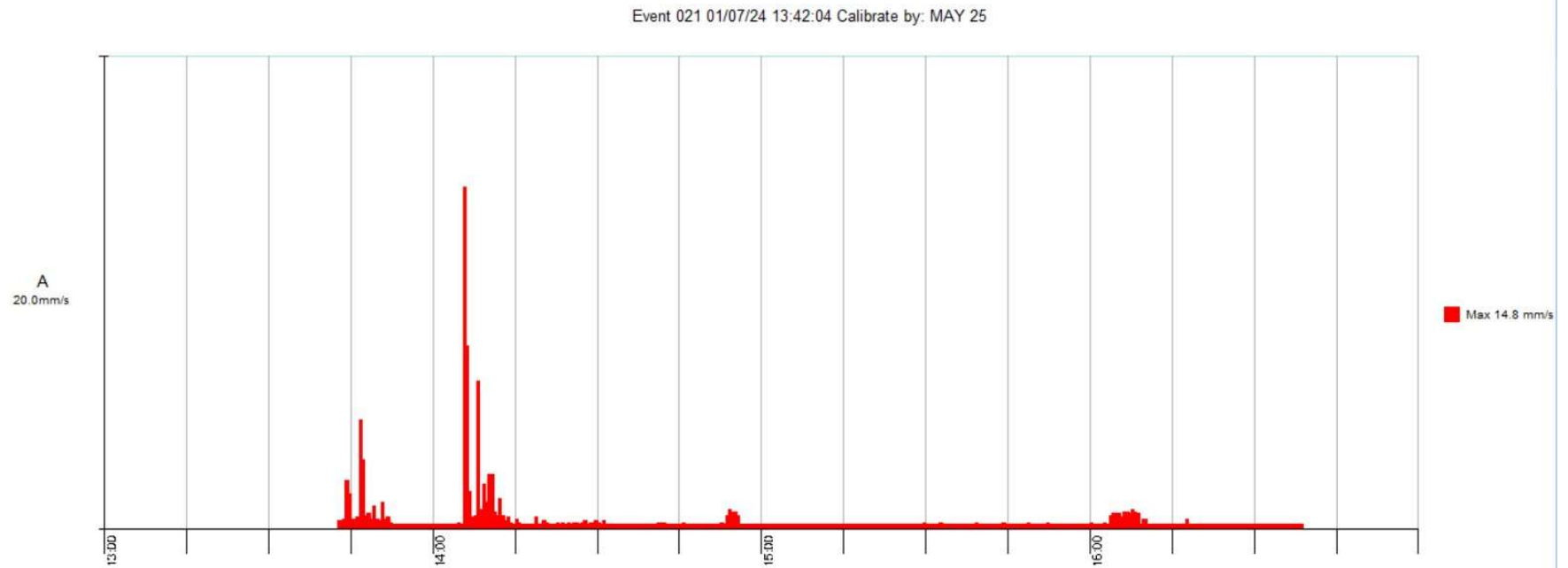
Seismometer on NT03 southern boundary with railway viaduct during upfill and compaction works



Event 018 28/06/24 00:00:00 Calibrate by: MAY 25



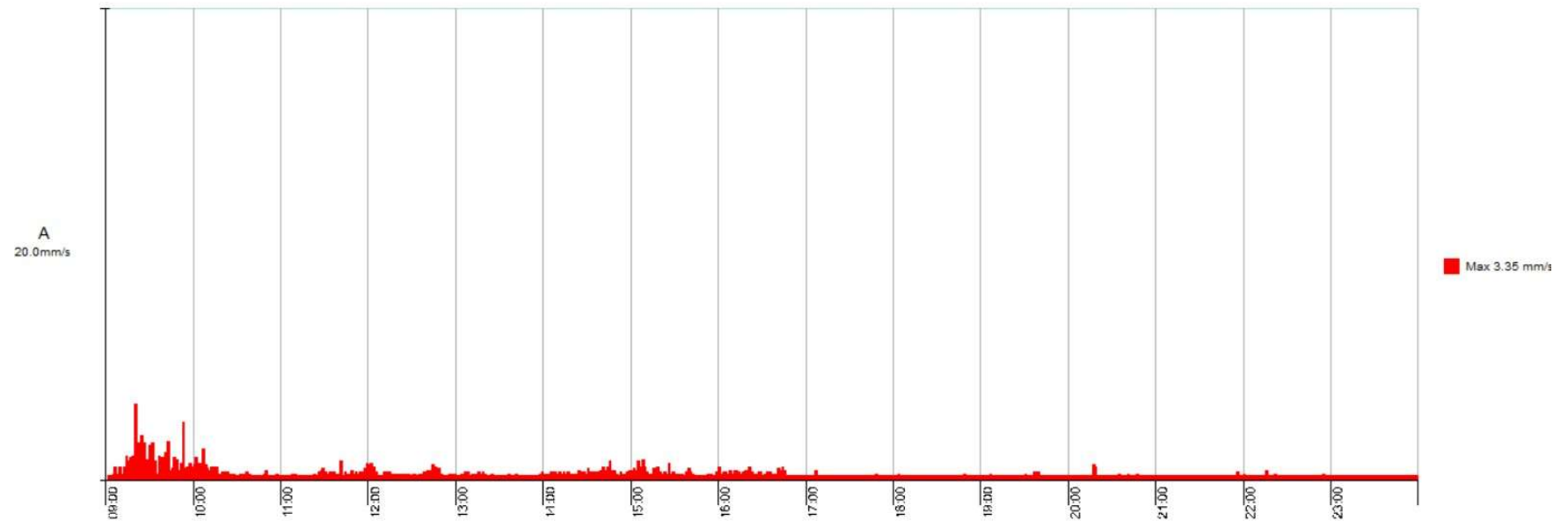
Seismometer on NT03 southern boundary with railway viaduct during upfill and compaction works



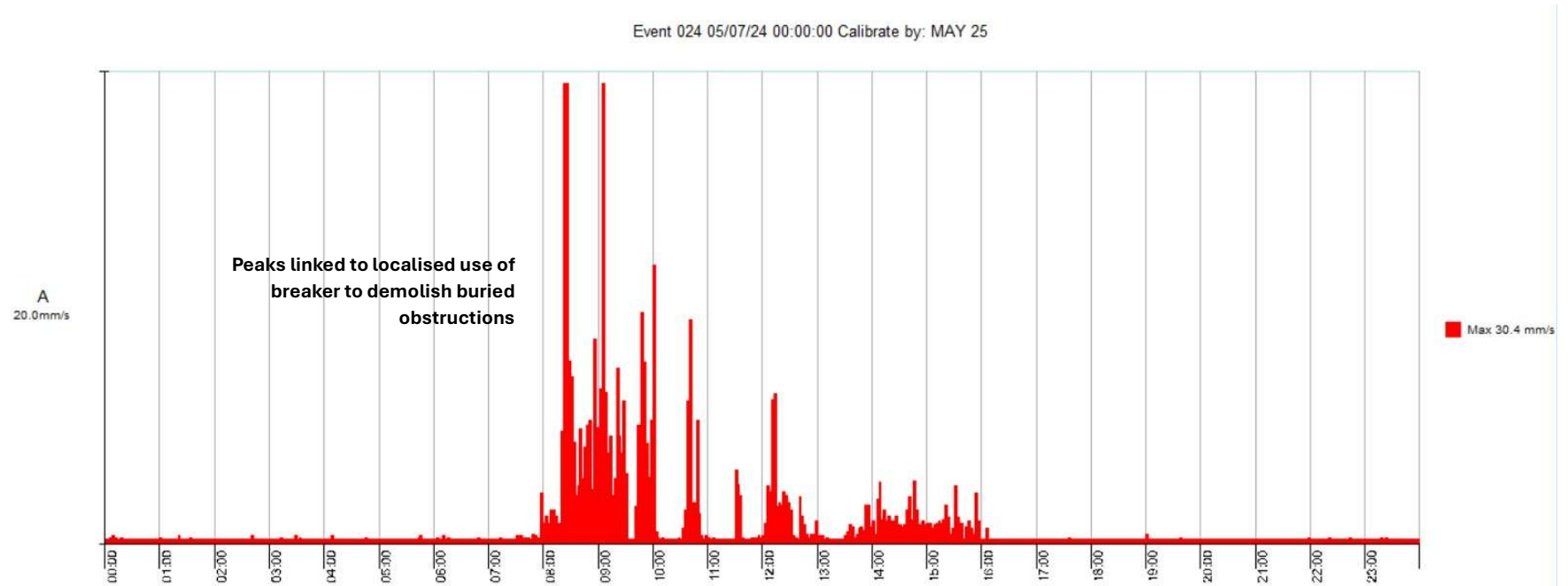
Seismometer on top of MP gas main during “small tank” remediation works



Event 023 04/07/24 09:02:53 Calibrate by: MAY 25



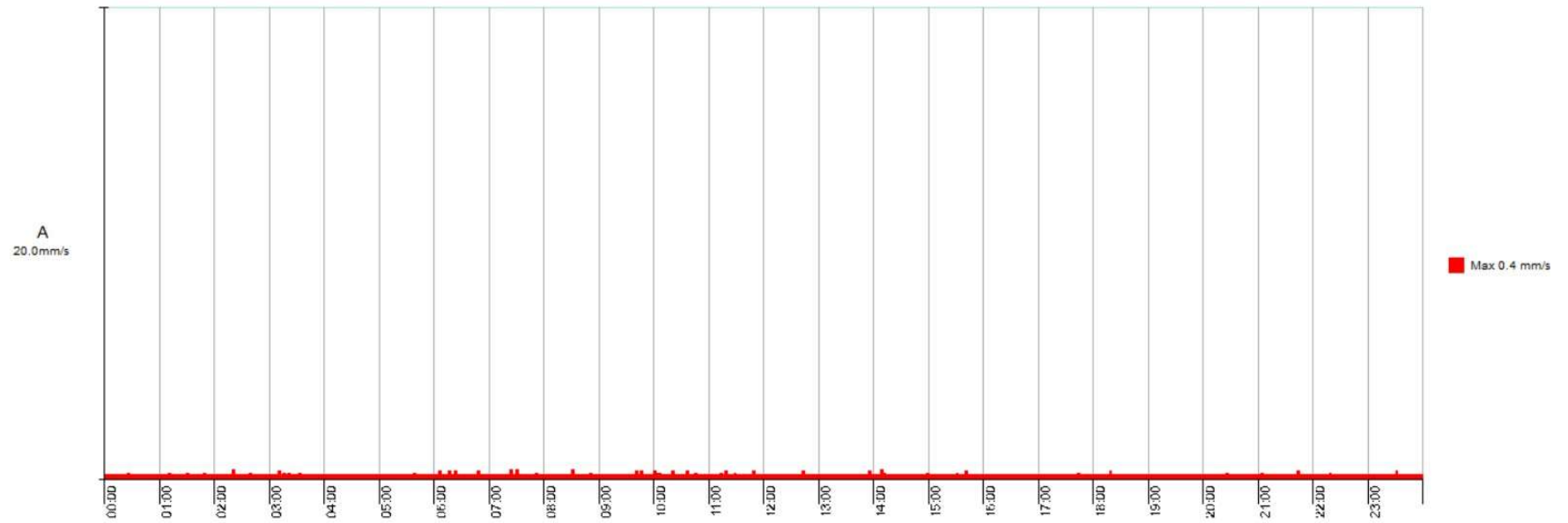
Seismometer on NT02 western boundary during obstruction uncovering and removal



Seismometer on NT02 western boundary during obstruction uncovering and removal



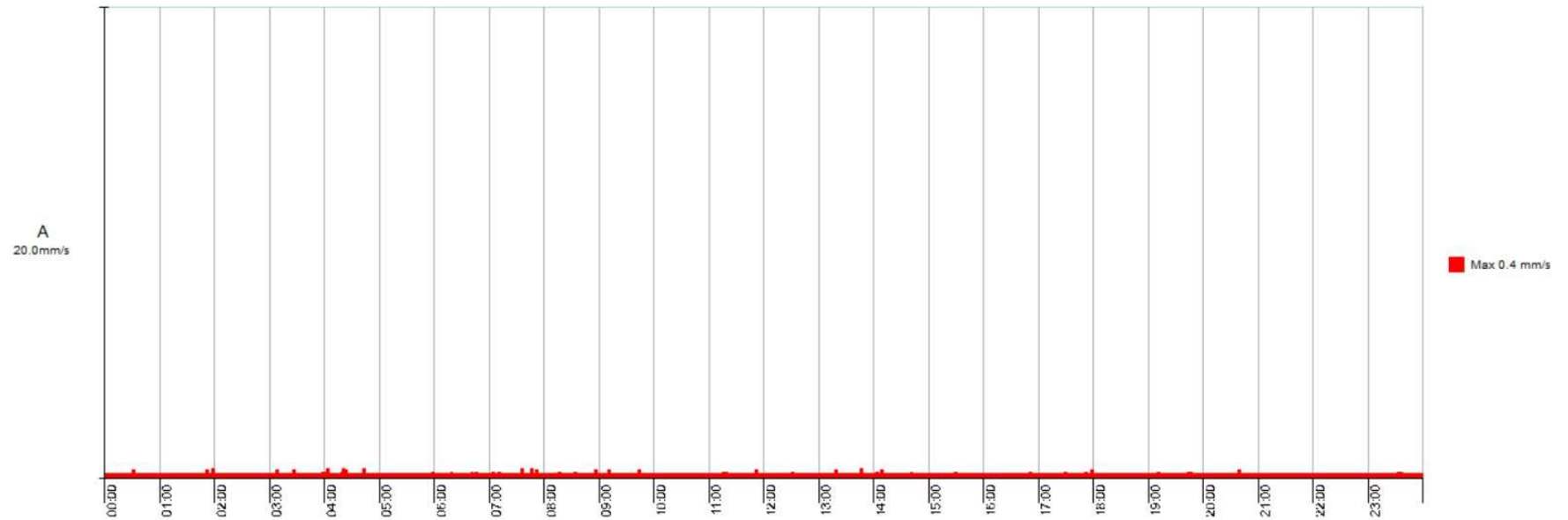
Event 025 07/07/24 00:00:00 Calibrate by: MAY 25



Seismometer on NT02 western boundary during obstruction uncovering and removal



Event 026 08/07/24 00:00:00 Calibrate by: MAY 25

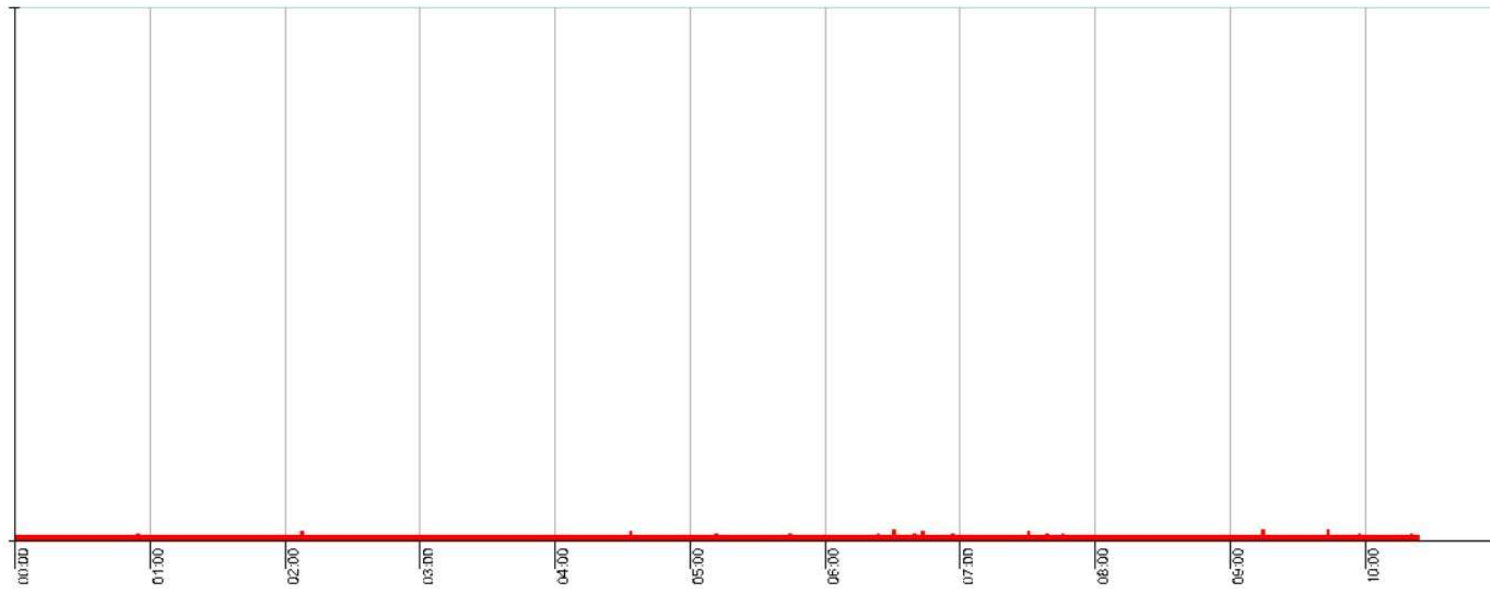


Seismometer on NT02 western boundary during obstruction uncovering and removal



Event 027 09/07/24 00:00:00 Calibrate by: MAY 25

A
20.0mm/s

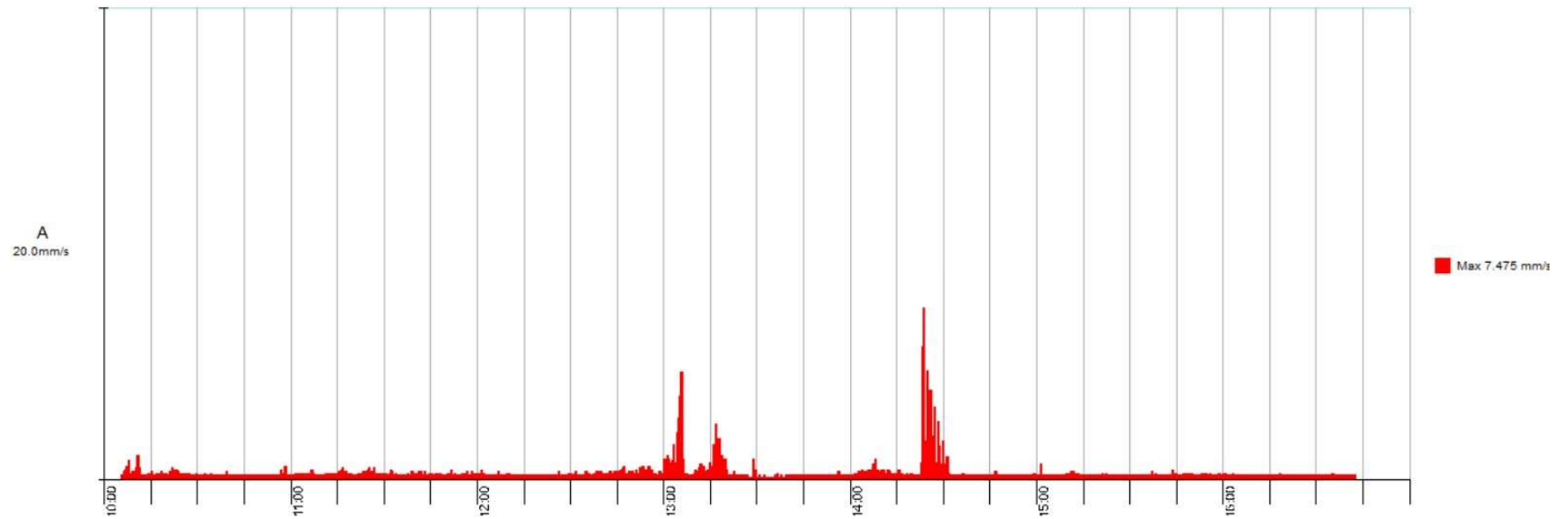


■ Max 1.45 mm/s

Seismometer on NT02 western boundary during obstruction uncovering and removal



Event 029 24/07/24 10:05:19 Calibrate by: MAY 25



Seismometer on NT03 southern boundary next to railway viaduct during upfilling works



Victoria North NT02 to NT04

Factual report covering works April to October 2024

Appendix J: TCE-specific appendices, as issued in “*Interim TCE validation report, NT02 Victoria, Issued August 2024*”.



Appendices

- First round of excavation validation analysis
 - 24-025376
 - 24-029493
- Second round of excavation validation analysis
 - 24-030450
- Additional validation trial pits outside of hotspot
 - 24-031424
 - 24-032291
- Stockpile analysis
 - 24-025303
 - 24-025309
- Backfill analysis
 - 24-024257
 - 24-031413
 - PSD determination C1087613 / 299203.3.1.1
- Tenax analysis
 - Background: 11105-2
 - First round: 11481-1
 - Second round: 11732-1
- Stockpile volumes and drawings
 - Stockpile Volumes - 21.06.2024
- First excavation extents
 - TCE 110624- Layout1
 - TCE val samples 110624-Layout1
- Second excavation extents
 - TCE 110724-Layout1
 - TCE 110724 val sample-Layout1
- Photos

Provectus Group
Regent House
Bath Avenue
Wolverhampton
WV1 4EG

e: david.knapp@provectusgroup.com

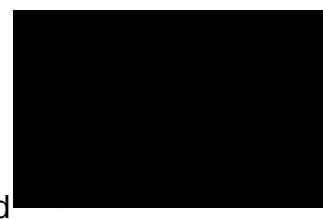
i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

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

Analytical Report Number : 24-025376

Project / Site name:	Victoria North	Samples received on:	14/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	14/06/2024
Your order number:	11181	Analysis completed by:	20/06/2024
Report Issue Number:	1	Report issued on:	21/06/2024
Samples Analysed:	13 soil samples		

Signed



Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	229327	229328	229329	229330	229331
Sample Reference	NT02/A	NT02/B	NT02/C	NT02/D	NT02/E
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	13	14	12	8.7
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.5	< 0.05	< 0.05	< 0.05	0.52
Acenaphthylene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	< 0.05	0.1
Acenaphthene	mg/kg	0.05	MCERTS	7.2	< 0.05	< 0.05	0.06	1.4
Fluorene	mg/kg	0.05	MCERTS	4.3	< 0.05	< 0.05	< 0.05	0.93
Phenanthrene	mg/kg	0.05	MCERTS	37	< 0.05	0.17	0.61	7.7
Anthracene	mg/kg	0.05	MCERTS	8.3	< 0.05	< 0.05	0.16	2.4
Fluoranthene	mg/kg	0.05	MCERTS	46	< 0.05	0.34	1.6	12
Pyrene	mg/kg	0.05	MCERTS	40	< 0.05	0.34	1.4	11
Benzo(a)anthracene	mg/kg	0.05	MCERTS	19	< 0.05	0.2	0.78	5
Chrysene	mg/kg	0.05	MCERTS	23	< 0.05	0.27	0.88	4.8
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	24	< 0.05	0.27	1.1	6.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	7.3	< 0.05	0.12	0.34	2.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	19	< 0.05	0.16	0.84	5.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	8.7	< 0.05	0.14	0.45	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	3.2	< 0.05	< 0.05	0.14	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	9.8	< 0.05	0.17	0.53	3.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	260	< 0.80	2.19	8.83	65.4
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	6.6	21	18	11
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.5	0.5	0.3	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	0.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	22	21	19	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	79	12	22	52	45
Lead (aqua regia extractable)	mg/kg	1	MCERTS	220	15	73	330	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	18	13	18	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	51	75	280	230

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229327	229328	229329	229330	229331
Sample Reference				NT02/A	NT02/B	NT02/C	NT02/D	NT02/E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	4.1	< 2.0	< 2.0	< 2.0	4.1
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	17
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	20	< 8.0	< 8.0	16	160
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	24	< 10	< 10	16	180

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	1.7	< 1.0	< 1.0	< 1.0	1.1
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	26	< 2.0	< 2.0	< 2.0	8.5
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	110	< 10	< 10	< 10	53
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	150	< 10	< 10	14	310
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	280	< 10	< 10	14	380

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ^{##}	< 5.0 ^{##}	< 5.0 ^{##}	< 5.0 ^{##}	< 5.0 ^{##}
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	19	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	47	87	200	32	71
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229327	229328	229329	229330	229331
Sample Reference				NT02/A	NT02/B	NT02/C	NT02/D	NT02/E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	229332	229333	229334	229335	229336
Sample Reference	NT02/F	NT02/G	NT02/H	NT02/I	NT02/J
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	14	11	14	11
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.43	0.35	0.76	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	0.07	0.06	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.87	1.4	1.2	< 0.05	0.05
Fluorene	mg/kg	0.05	MCERTS	0.85	0.91	0.73	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.8	13	7.1	0.16	0.55
Anthracene	mg/kg	0.05	MCERTS	1.3	3.3	1.7	< 0.05	0.11
Fluoranthene	mg/kg	0.05	MCERTS	4.8	20	10	0.2	0.65
Pyrene	mg/kg	0.05	MCERTS	4.3	17	9	0.24	0.58
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.6	8.9	3.9	< 0.05	0.29
Chrysene	mg/kg	0.05	MCERTS	1.6	9.4	3.8	0.06	0.35
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.8	11	4.7	< 0.05	0.37
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.65	3.5	1.3	< 0.05	0.12
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.5	9.4	3.6	< 0.05	0.31
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.74	4.5	1.9	< 0.05	0.16
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.24	1.4	0.53	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.84	5	2.1	< 0.05	0.19

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	25.4	110	52.6	< 0.80	3.74
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	20	16	5.6	7.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.6	0.6	1.5	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.1	1.3	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	22	22	27	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	29	88	45	11	17
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	230	110	15	36
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	25	21	20	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	330	270	63	65



Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229332	229333	229334	229335	229336
Sample Reference				NT02/F	NT02/G	NT02/H	NT02/I	NT02/J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	8.9	3.2	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	36	23	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	130	65	30	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	180	91	30	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	12	8.1	4.5	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	57	62	37	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	99	100	76	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	170	170	120	< 10	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	17	30	18	13	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	310	330	150	89	49
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229332	229333	229334	229335	229336
Sample Reference				NT02/F	NT02/G	NT02/H	NT02/I	NT02/J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229337	229338	229339
Sample Reference				NT02/K	NT02/L	NT02/M
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13	12
Total mass of sample received	kg	0.1	NONE	0.7	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.06	0.11	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.1	0.3	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.14	0.17	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.3	1.6	0.16
Anthracene	mg/kg	0.05	MCERTS	0.37	0.35	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.5	1.7	0.23
Pyrene	mg/kg	0.05	MCERTS	1.6	1.5	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.81	0.69	0.09
Chrysene	mg/kg	0.05	MCERTS	0.87	0.91	0.13
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.86	0.86	0.15
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.3	0.37	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.85	0.74	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.36	0.36	0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.45	0.42	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	9.68	10.2	1.12
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	9.7	8.2
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.4	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	23	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	41	25	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	94	280	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	20	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	74	95	53

Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229337	229338	229339
Sample Reference				NT02/K	NT02/L	NT02/M
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	4.6	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	13	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	33	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	51	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	27	17
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	77	340	83
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0



Analytical Report Number: 24-025376
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				229337	229338	229339
Sample Reference				NT02/K	NT02/L	NT02/M
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				14/06/2024	14/06/2024	14/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-025376
Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
229327	NT02/A	None Supplied	None Supplied	Brown clay and sand with gravel
229328	NT02/B	None Supplied	None Supplied	Brown clay and sand
229329	NT02/C	None Supplied	None Supplied	Brown sand with gravel
229330	NT02/D	None Supplied	None Supplied	Brown sand with gravel
229331	NT02/E	None Supplied	None Supplied	Brown sand with gravel and brick
229332	NT02/F	None Supplied	None Supplied	Brown clay and gravel
229333	NT02/G	None Supplied	None Supplied	Brown clay and loam with gravel
229334	NT02/H	None Supplied	None Supplied	Brown clay and loam with gravel
229335	NT02/I	None Supplied	None Supplied	Brown clay and loam with gravel
229336	NT02/J	None Supplied	None Supplied	Brown clay and loam with gravel
229337	NT02/K	None Supplied	None Supplied	Brown clay and loam with gravel
229338	NT02/L	None Supplied	None Supplied	Brown clay and loam with gravel
229339	NT02/M	None Supplied	None Supplied	Brown clay and loam with gravel

Analytical Report Number : 24-025376
 Project / Site name: Victoria North

Water matrix abbreviations:
 Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS



Analytical Report Number : 24-025376
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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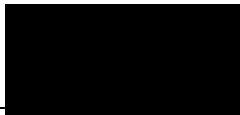
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Analytical Report Number : 24-029493

Project / Site name:	Victoria North	Samples received on:	08.07.2024
Your job number:	101221	Samples instructed on / Analysis started on:	08.07.2024
Your order number:	11181	Analysis completed by:	12.07.2024
Report Issue Number:	1	Report issued on:	12.07.2024
Samples Analysed:	7 soil samples		

Signed: 

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-029493
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	250690	250691	250692	250693	250694
Sample Reference	NT02 TCE 1	NT02 TCE 2	small tank N	small tank E	small tank S
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	04/07/2024	04/07/2024	04/07/2024	04/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	36.5	40.5	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.3	6	22	14	11
Total mass of sample received	kg	0.1	NONE	1.3	1.4	1.4	1.4	1.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.59	7.3	< 0.05	< 0.05	0.87
Acenaphthylene	mg/kg	0.05	MCERTS	0.23	2.7	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.5	7.9	< 0.05	< 0.05	0.59
Fluorene	mg/kg	0.05	MCERTS	1	7.4	< 0.05	< 0.05	0.57
Phenanthrene	mg/kg	0.05	MCERTS	12	54	0.16	< 0.05	2.7
Anthracene	mg/kg	0.05	MCERTS	3.5	12	< 0.05	< 0.05	0.77
Fluoranthene	mg/kg	0.05	MCERTS	23	48	0.2	< 0.05	2.5
Pyrene	mg/kg	0.05	MCERTS	20	45	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	14	19	< 0.05	< 0.05	1.6
Chrysene	mg/kg	0.05	MCERTS	13	20	0.12	< 0.05	1.6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	17	18	< 0.05	< 0.05	1.7
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	8.5	6.8	< 0.05	< 0.05	0.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	17	17	< 0.05	< 0.05	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	9.2	7.3	0.09	< 0.05	0.72
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.6	2.2	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	10	9.1	< 0.05	< 0.05	0.81

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	153	284	< 0.80	< 0.80	16.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	13	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	0.9	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.8	1.3	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	17	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	68	65	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	250	1400	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	19	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	330	210	-	-	-

Analytical Report Number: 24-029493
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	250690	250691	250692	250693	250694
Sample Reference	NT02 TCE 1	NT02 TCE 2	small tank N	small tank E	small tank S
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	04/07/2024	04/07/2024	04/07/2024	04/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.3
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	2.1	< 2.0	< 2.0	9.3
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	28	8.8	11	< 8.0	19
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	270	93	44	< 8.0	51
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	300	100	55	< 10	84

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	5.5	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	8.6	38	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	93	160	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	480	250	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	580	450	< 10	< 10	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	51	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-



Analytical Report Number: 24-029493
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				250690	250691	250692	250693	250694
Sample Reference				NT02 TCE 1	NT02 TCE 2	small tank N	small tank E	small tank S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				04/07/2024	04/07/2024	04/07/2024	04/07/2024	04/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-029493
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	250695	250696
Sample Reference	small tank W	small tank B
Sample Number	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied
Date Sampled	04/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection
		Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	19
Total mass of sample received	kg	0.1	NONE	1.4	1.4

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.48	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.51	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.38	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.39	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.45	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.52	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.32	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.3	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.5	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-

Analytical Report Number: 24-029493

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number	250695	250696
Sample Reference	small tank W	small tank B
Sample Number	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied
Date Sampled	04/07/2024	04/07/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection
		Accreditation Status

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	4.2	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	19	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	25	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	48	< 10

VOCS

Chloromethane	µg/kg	5	ISO 17025	-	-
Chloroethane	µg/kg	5	NONE	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	ISO 17025	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbon tetrachloride	µg/kg	5	NONE	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-

Analytical Report Number: 24-029493
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number				250695	250696
Sample Reference				small tank W	small tank B
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				04/07/2024	04/07/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-
Bromoform	µg/kg	5	NONE	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	NONE	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
Butylbenzene	µg/kg	5	NONE	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-029493

Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
250690	NT02 TCE 1	None Supplied	None Supplied	Brown loam with gravel and stones
250691	NT02 TCE 2	None Supplied	None Supplied	Brown loam with gravel and stones
250692	small tank N	None Supplied	None Supplied	Brown clay and loam with gravel
250693	small tank E	None Supplied	None Supplied	Brown clay and loam with gravel
250694	small tank S	None Supplied	None Supplied	Brown clay and sand with gravel
250695	small tank W	None Supplied	None Supplied	Brown clay and sand with gravel
250696	small tank B	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-029493

Project / Site name: Victoria North

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-030450

Project / Site name:	Victoria North	Samples received on:	12/07/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	12/07/2024
Your order number:	11181	Analysis completed by:	18/07/2024
Report Issue Number:	1	Report issued on:	18/07/2024
Samples Analysed:	5 soil samples		

Signed: _____

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-030450
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				255327	255328	255329	255330	255331
Sample Reference				NT02 TCE 3	NT02 TCE 4	NT02 TCE 5	NT02 TCE 6	NT02 TCE 7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2024	11/07/2024	11/07/2024	11/07/2024	11/07/2024
Time Taken				b	b	b	b	b
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	11	16	17
Total mass of sample received	kg	0.1	NONE	0.2	0.3	0.2	0.3	0.2

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	9.5	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	9.1	20	7.1	44	130
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	72
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



Analytical Report Number: 24-030450
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				255327	255328	255329	255330	255331
Sample Reference				NT02 TCE 3	NT02 TCE 4	NT02 TCE 5	NT02 TCE 6	NT02 TCE 7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2024	11/07/2024	11/07/2024	11/07/2024	11/07/2024
Time Taken				b	b	b	b	b
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-030450
Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
255327	NT02 TCE 3	None Supplied	None Supplied	Brown clay
255328	NT02 TCE 4	None Supplied	None Supplied	Brown clay and sand with gravel
255329	NT02 TCE 5	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
255330	NT02 TCE 6	None Supplied	None Supplied	Brown clay and sand with gravel
255331	NT02 TCE 7	None Supplied	None Supplied	Brown clay and sand with gravel



Analytical Report Number : 24-030450
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Sample Deviation Report



Analytical Report Number : 24-030450
Project / Site name: Victoria North
This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
NT02 TCE 3	N/A	S	255327	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 4	N/A	S	255328	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 5	N/A	S	255329	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 6	N/A	S	255330	b	BTEX and/or Volatile organic compounds in soil	L073B	b
NT02 TCE 7	N/A	S	255331	b	BTEX and/or Volatile organic compounds in soil	L073B	b



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Analytical Report Number : 24-031424

Project / Site name: Victoria North

Samples received on: 18/07/2024

Your job number: 101221

Samples instructed on /
Analysis started on: 18/07/2024

Your order number: 11181

Analysis completed by: 24/07/2024

Report Issue Number: 1

Report issued on: 24/07/2024

Samples Analysed: 4 soil samples

Signed: 

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	15	9.3	15
Total mass of sample received	kg	0.1	NONE	1	1	0.8	0.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	-	-	IZJ	-

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	10	13	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	0.73	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.09	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	1.5	-
Fluorene	mg/kg	0.05	MCERTS	-	-	1.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	7.8	-
Anthracene	mg/kg	0.05	MCERTS	-	-	2.2	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	10	-
Pyrene	mg/kg	0.05	MCERTS	-	-	9.6	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	3.8	-
Chrysene	mg/kg	0.05	MCERTS	-	-	3.9	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	4.4	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	1.8	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	3.9	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	1.9	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.39	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	2.1	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	55.6	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	19	10	-
Boron (water soluble)	mg/kg	0.2	MCERTS	22	7	0.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	6.8	11	0.5	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	130	130	19	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1900	3800	44	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	690	770	76	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.3	3.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	140	170	15	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	4100	4300	140	-



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	MCERTS	-	-	< 0.020	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	MCERTS	-	-	< 0.020	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	MCERTS	-	-	< 0.050	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	-	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	-	4.9	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	27	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	200	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	-	230	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	MCERTS	-	-	< 0.050	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	-	2	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	-	14	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	53	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	170	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	-	240	-

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	2200	1100	-	-
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VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0 ^{##}
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	170
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	< 5.0



Analytical Report Number: 24-031424
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260854	260855	260856	260857
Sample Reference				export 160724 HAZ	export 170724 HAZ	6F2 crush	TLE TP1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	17/07/2024	16/07/2024	17/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-031424
Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
260854	xport 160724 HA	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260855	xport 170724 HA	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260856	6F2 crush	None Supplied	None Supplied	Brown sand with gravel and brick
260857	TLE TP1	None Supplied	None Supplied	Brown clay

Analytical Report Number : 24-031424
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics



Analytical Report Number : 24-031424
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - underscore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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Analytical Report Number : 24-032291

Project / Site name:	Victoria North	Samples received on:	23/07/2024
Your job number:	101221	Samples instructed on / Analysis started on:	23/07/2024
Your order number:	11181	Analysis completed by:	30/07/2024
Report Issue Number:	1	Report issued on:	30/07/2024
Samples Analysed:	8 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-032291
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number				265788	265789	265790	265791	265792
Sample Reference				SP1	SP2	SP3	SP4	SP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	17	18	18	18
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.1	1.1	1.2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DBU	DBU	DBU	DBU	DBU

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	8.2	8	8.1	4.9	10
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.4	0.26	0.26	0.3	0.27
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	0.09	0.07	0.07	0.29
Acenaphthene	mg/kg	0.05	MCERTS	0.84	0.64	0.42	0.46	0.47
Fluorene	mg/kg	0.05	MCERTS	0.62	0.45	0.35	0.31	0.58
Phenanthrene	mg/kg	0.05	MCERTS	4.4	4.1	2.8	3.1	4
Anthracene	mg/kg	0.05	MCERTS	1.1	0.98	0.7	0.66	0.99
Fluoranthene	mg/kg	0.05	MCERTS	5.9	5.7	4.9	4.3	5.8
Pyrene	mg/kg	0.05	MCERTS	5.3	5.3	4.6	4	5.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.4	2.6	2.2	1.9	2.6
Chrysene	mg/kg	0.05	MCERTS	2.4	2.6	2.3	2	2.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.7	3.3	2.8	2.5	3.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.5	1.2	0.96	0.95	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.6	2.8	2.4	2.2	3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2	1.2	1.2	1.2	1.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.28	0.3	0.3	0.25	0.41
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.4	1.3	1.4	1.3	1.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	33	32.7	27.7	25.5	34.4
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	17	21	16	17
Boron (water soluble)	mg/kg	0.2	MCERTS	12	8.9	8.1	1.9	2.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	10	10	61	6.4	7.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	100	120	84	63	130
Copper (aqua regia extractable)	mg/kg	1	MCERTS	3400	1600	1500	780	3800
Lead (aqua regia extractable)	mg/kg	1	MCERTS	690	570	5100	420	870
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.1	3.7	3.4	2.5	8.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	230	110	100	68	170
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	3500	2400	2100	1200	4400



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Environmental Science

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265788	265789	265790	265791	265792
Sample Reference				SP1	SP2	SP3	SP4	SP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.2
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	20	20	12	9.6	15
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	90	83	64	40	93
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	700	580	410	250	680
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	810	680	490	300	790

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	12	12	4.4	4.2	10
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	66	68	29	20	49
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	320	300	140	85	310
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	400	380	170	110	370

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265788	265789	265790	265791	265792
Sample Reference				SP1	SP2	SP3	SP4	SP5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	10	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	11	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	9.5	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-032291
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number	265793	265794	265795
Sample Reference	SP6	TCE TP2	TCE TP3
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	19/07/2024	19/07/2024	19/07/2024
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	12	10
Total mass of sample received	kg	0.1	NONE	1.2	0.9	1.2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	-	-
Asbestos Analyst ID	N/A	N/A	N/A	DBU	-	-

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	8.9	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.37	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.09	-	-
Acenaphthene	mg/kg	0.05	MCERTS	0.55	-	-
Fluorene	mg/kg	0.05	MCERTS	0.52	-	-
Phenanthrene	mg/kg	0.05	MCERTS	4.3	-	-
Anthracene	mg/kg	0.05	MCERTS	1.4	-	-
Fluoranthene	mg/kg	0.05	MCERTS	6.7	-	-
Pyrene	mg/kg	0.05	MCERTS	6.4	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.9	-	-
Chrysene	mg/kg	0.05	MCERTS	3.1	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.7	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.5	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.3	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.7	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.4	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	38.8	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	7.5	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	5.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	100	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	2200	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	780	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.6	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	120	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	3800	-	-

Analytical Report Number: 24-032291
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	265793	265794	265795
Sample Reference	SP6	TCE TP2	TCE TP3
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	19/07/2024	19/07/2024	19/07/2024
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	-	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	-	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	-	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	-	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	15	-	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	85	-	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	550	-	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	650	-	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	-	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	-	-
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	-	-
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	8.1	-	-
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	50	-	-
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	290	-	-
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	350	-	-

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	13
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	120
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-032291

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				265793	265794	265795
Sample Reference				SP6	TCE TP2	TCE TP3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				19/07/2024	19/07/2024	19/07/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Ethylbenzene	µg/kg	5	MCERTS	7.5	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	5.3	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-032291

Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
265788	SP1	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation
265789	SP2	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation
265790	SP3	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265791	SP4	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265792	SP5	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265793	SP6	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
265794	TCE TP2	None Supplied	None Supplied	Brown clay and sand with gravel
265795	TCE TP3	None Supplied	None Supplied	Brown loam and sand with gravel

Analytical Report Number : 24-032291

Project / Site name: Victoria North

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-032291

Project / Site name: Victoria North

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-025303

Project / Site name: Victoria North

Samples received on: 14/06/2024

Your job number: 101221

Samples instructed on /
Analysis started on: 14/06/2024

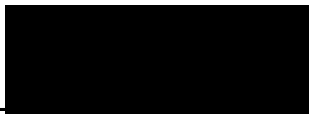
Your order number: 11181

Analysis completed by: 21/06/2024

Report Issue Number: 1

Report issued on: 21/06/2024

Samples Analysed: 7 soil samples

Signed: 

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-025303
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228829	228830	228831	228832	228833
Sample Reference				ES1	ES2	ES3	ES4	ES5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Stone Content	%	0.1	NONE	9.4	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.4	9.5	12	9.1	7.3
Total mass of sample received	kg	0.1	NONE	0.3	0.3	0.2	0.3	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.21	0.16	0.11	0.38	0.44
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	0.14
Acenaphthene	mg/kg	0.05	MCERTS	0.6	0.48	0.25	0.63	0.82
Fluorene	mg/kg	0.05	MCERTS	0.37	0.37	0.17	0.36	0.64
Phenanthrene	mg/kg	0.05	MCERTS	4.4	4.9	2.2	3.5	6.9
Anthracene	mg/kg	0.05	MCERTS	1	1.3	0.56	< 0.05	1.6
Fluoranthene	mg/kg	0.05	MCERTS	6.2	8	4.3	3	9.7
Pyrene	mg/kg	0.05	MCERTS	5.8	7.4	3.9	3.2	9.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3	3.6	2.1	1.3	4.9
Chrysene	mg/kg	0.05	MCERTS	3.1	3.7	2.2	1.6	4.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.1	3.4	2.6	1.3	5.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.5	2	1.1	0.65	2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3	3.4	2.3	1.4	4.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4	1.6	1.2	0.6	2.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.37	0.32	< 0.05	0.18	0.5
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.7	1.8	1.3	0.8	2.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	35.6	42.5	24.2	18.9	56.4
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	7.3	4.1	4.9	< 2.0	2.3
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	28	18	37	< 8.0	18
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	92	55	150	8.9	66
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	130	77	190	< 10	86

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.3	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	5.8	6	6.1	7.6	7.2
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	39	36	36	20	41
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	98	86	110	36	83
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	140	130	150	65	130



Analytical Report Number: 24-025303
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228829	228830	228831	228832	228833
Sample Reference				ES1	ES2	ES3	ES4	ES5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

VOCS

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	18	30	30	34	27
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	23	55	57	17	72
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	260	670	760	340	610
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



Analytical Report Number: 24-025303
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228829	228830	228831	228832	228833
Sample Reference				ES1	ES2	ES3	ES4	ES5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 24-025303
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228834	228835
Sample Reference				ES6	ES7
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	21.8
Moisture Content	%	0.01	NONE	8.5	10
Total mass of sample received	kg	0.1	NONE	0.2	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.28	0.11
Acenaphthylene	mg/kg	0.05	MCERTS	0.19	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.44	0.2
Fluorene	mg/kg	0.05	MCERTS	0.36	0.15
Phenanthrene	mg/kg	0.05	MCERTS	4.5	1.7
Anthracene	mg/kg	0.05	MCERTS	0.97	0.4
Fluoranthene	mg/kg	0.05	MCERTS	7.1	2.9
Pyrene	mg/kg	0.05	MCERTS	7.1	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.2	1.5
Chrysene	mg/kg	0.05	MCERTS	3.4	1.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.6	1.5
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4	0.75
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.6	0.69
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.36	0.17
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	0.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	39.5	16.3
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	2.8	2
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	30	14
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	89	54
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	120	70

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	5.6	3.8
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	48	21
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	120	61
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	170	85



Analytical Report Number: 24-025303
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228834	228835
Sample Reference				ES6	ES7
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ##	< 5.0 ##
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	25	24
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	35	24
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0 ##
Trichloroethene	µg/kg	5	ISO 17025	500	380
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0



Analytical Report Number: 24-025303
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228834	228835
Sample Reference				ES6	ES7
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/06/2024	12/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-025303
Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
228829	ES1	None Supplied	None Supplied	Brown sandy loam with gravel and stones
228830	ES2	None Supplied	None Supplied	Brown clay and sand with gravel
228831	ES3	None Supplied	None Supplied	Brown sand with gravel
228832	ES4	None Supplied	None Supplied	Brown sand with gravel
228833	ES5	None Supplied	None Supplied	Brown sandy loam with gravel
228834	ES6	None Supplied	None Supplied	Brown sandy loam with gravel
228835	ES7	None Supplied	None Supplied	Brown sand with gravel and stones



Analytical Report Number : 24-025303
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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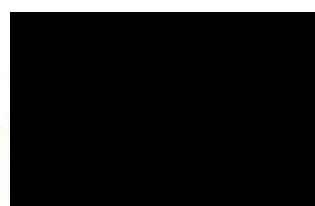
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Analytical Report Number : 24-025309

Project / Site name:	Victoria North	Samples received on:	14/06/2024
Your job number:	101221	Samples instructed on/ Analysis started on:	14/06/2024
Your order number:	11181	Analysis completed by:	20/06/2024
Report Issue Number:	1	Report issued on:	20/06/2024
Samples Analysed:	1 soil sample		

Signed:



Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-025309
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228874
Sample Reference				ES8
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	10
Total mass of sample received	kg	0.1	NONE	1.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.09
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.2
Pyrene	mg/kg	0.05	MCERTS	0.17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.09
Chrysene	mg/kg	0.05	MCERTS	0.12
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.06
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.07
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.09

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.12
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	49
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	69



Analytical Report Number: 24-025309
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number	228874			
Sample Reference	ES8			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	13/06/2024			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	32
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	32

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0 ^{##}
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0
Chloroform	µg/kg	5	ISO 17025	19
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	NONE	36
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0 ^{##}
Trichloroethene	µg/kg	5	ISO 17025	550
Dibromomethane	µg/kg	5	ISO 17025	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0



Analytical Report Number: 24-025309
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				228874
Sample Reference				ES8
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-025309
Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
228874	ES8	None Supplied	None Supplied	Brown clay and sand with gravel

Analytical Report Number : 24-025309
 Project / Site name: Victoria North

Water matrix abbreviations:
 Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS



Analytical Report Number : 24-025309
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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Analytical Report Number : 24-024257

Project / Site name:	Victoria North	Samples received on:	10/06/2024
Your job number:	101221	Samples instructed on / Analysis started on:	10/06/2024
Your order number:	11181	Analysis completed by:	14/06/2024
Report Issue Number:	1	Report issued on:	17/06/2024
Samples Analysed:	3 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-024257
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	10
Total mass of sample received	kg	0.1	NONE	0.7	0.9	0.8

General Inorganics

Loss on Ignition @ 450°C	%	0.2	MCERTS	5.2	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	0.34	0.82
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	0.43
Acenaphthene	mg/kg	0.05	MCERTS	-	0.52	3.4
Fluorene	mg/kg	0.05	MCERTS	-	0.48	2.7
Phenanthrene	mg/kg	0.05	MCERTS	-	3.6	20
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	5.7
Fluoranthene	mg/kg	0.05	MCERTS	-	5.8	24
Pyrene	mg/kg	0.05	MCERTS	-	5.4	21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	3	9.5
Chrysene	mg/kg	0.05	MCERTS	-	3.2	11
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	3.4	12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	1.6	3.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.1	11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.7	5.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.38	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.9	7.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	34.3	139
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	18	35
Boron (water soluble)	mg/kg	0.2	MCERTS	6.4	14	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.6	6.6	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	40	330	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	530	3500	78
Lead (aqua regia extractable)	mg/kg	1	MCERTS	630	2000	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.5	2.2	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	46	160	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	820	3800	140

Analytical Report Number: 24-024257
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	-	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	-	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	-	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	11	11
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	54	39
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	430	500
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	490	550

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	-	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	-	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	-	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	< 1.0	2.5
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	7.2	25
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	26	70
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	110	430
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	140	530

TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	480	-	-
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VOCs

Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0

Analytical Report Number: 24-024257
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number				222923	222924	222925
Sample Reference				Export 070624	Ramp	Ash Fill
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				07/06/2024	07/06/2024	07/06/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-024257

Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
222923	Export 070624	None Supplied	None Supplied	Brown loam and clay with brick and vegetation
222924	Ramp	None Supplied	None Supplied	Brown loam and sand with gravel and plastic
222925	Ash Fill	None Supplied	None Supplied	Brown loam and sand with gravel

Analytical Report Number : 24-024257

Project / Site name: Victoria North

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

Analytical Report Number : 24-024257

Project / Site name: Victoria North

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-031413

Project / Site name:	Victoria North	Samples received on:	18/07/2024
Your job number:	101221	Samples instructed on / Analysis started on:	18/07/2024
Your order number:	11181	Analysis completed by:	29/07/2024
Report Issue Number:	1	Report issued on:	30/07/2024
Samples Analysed:	9 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260789	260790	260791	260792	260793
Sample Reference				ash fill 1	ash fill 2	ash fill 3	ash fill 4	ash fill 5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	24.5	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	11	13	14	14
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.7	0.8	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.88	0.83	0.78	0.44	0.68
Acenaphthylene	mg/kg	0.05	MCERTS	0.23	0.33	0.17	0.18	0.15
Acenaphthene	mg/kg	0.05	MCERTS	3.6	2.7	1.5	1.7	0.55
Fluorene	mg/kg	0.05	MCERTS	2.8	2.4	1.3	1.3	0.75
Phenanthrene	mg/kg	0.05	MCERTS	18	14	7.7	9.9	3.7
Anthracene	mg/kg	0.05	MCERTS	5.4	4.9	2.3	3.1	1.1
Fluoranthene	mg/kg	0.05	MCERTS	25	27	13	16	6.2
Pyrene	mg/kg	0.05	MCERTS	23	24	12	15	5.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	11	12	5.3	7.2	2.8
Chrysene	mg/kg	0.05	MCERTS	11	12	6.1	8	3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	12	14	7.4	10	3.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	4.9	6.5	2.9	3.7	1.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	11	13	6.8	8.9	3.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	6.1	7.5	3.1	4.3	1.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.2	1.6	0.78	1.1	0.43
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.6	7.8	3.8	4.9	2.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	143	150	74	95.6	38
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	14	17	15	17
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	0.7	2	1.2	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.6	2.1	1.2	1.2	1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	32	32	31	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	150	130	130	110	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	400	420	430	260	420
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	0.9	0.7	0.6	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	28	25	21	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2	1	1.3	< 1.0	1.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	740	700	520	440	770



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260789	260790	260791	260792	260793
Sample Reference				ash fill 1	ash fill 2	ash fill 3	ash fill 4	ash fill 5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	2	1.2	< 1.0	1.1	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	17	27	18	8.9	14
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	79	100	65	45	53
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	510	650	430	370	330
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	610	780	510	430	390

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	6.2	2.8	3.3	3.8	6
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	28	27	15	17	9.7
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	130	200	78	86	50
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	420	790	300	340	260
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	590	1000	400	450	320

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0 **	< 5.0 **	< 5.0 **	< 5.0 **	< 5.0 **
Trichloroethene	µg/kg	5	ISO 17025	8.6	< 5.0	37	11	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260789	260790	260791	260792	260793
Sample Reference				ash fill 1	ash fill 2	ash fill 3	ash fill 4	ash fill 5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-031413
Project / Site name: Victoria North
Your Order No: 11181

Lab Sample Number				260794	260795	260796	260797
Sample Reference				NT02 Tank N	NT02 Tank E	NT02 Tank S	NT02 Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	31.2
Moisture Content	%	0.01	NONE	12	11	10	12
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.9	0.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.07	0.62	0.11	0.96
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.12
Acenaphthene	mg/kg	0.05	MCERTS	0.08	1.7	1.4	3
Fluorene	mg/kg	0.05	MCERTS	0.05	1.5	1.4	2.9
Phenanthrene	mg/kg	0.05	MCERTS	0.25	9.9	12	17
Anthracene	mg/kg	0.05	MCERTS	0.06	3.1	3.7	5.6
Fluoranthene	mg/kg	0.05	MCERTS	0.34	14	17	19
Pyrene	mg/kg	0.05	MCERTS	0.35	13	14	17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.17	6	6.4	8.2
Chrysene	mg/kg	0.05	MCERTS	0.17	7	6.1	9.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.2	7.6	7.3	8.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.08	2.4	3	4.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.21	6.6	6.3	8.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.09	3.8	2.9	4.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.93	0.64	0.87
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.14	4.3	3.2	4.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	2.25	82.9	84.9	115
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.2	14	4.3	12
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9	0.2	0.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8	24	8.4	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	65	13	75
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	210	18	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.4	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9	24	8.2	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	32	330	33	340



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Environmental Science

Analytical Report Number: 24-031413

Project / Site name: Victoria North

Your Order No: 11181

Lab Sample Number				260794	260795	260796	260797
Sample Reference				NT02 Tank N	NT02 Tank E	NT02 Tank S	NT02 Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	15	2.7	17
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	58	< 8.0	55
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	420	9	380
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	490	12	460

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	3.5	5.6	1.6
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	16	20	13
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	100	85	85
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	540	130	370
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	650	240	470

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0 **	< 5.0 **	< 5.0 **	< 5.0 **
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	24	22	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0



Analytical Report Number: 24-031413
 Project / Site name: Victoria North
 Your Order No: 11181

Lab Sample Number				260794	260795	260796	260797
Sample Reference				NT02 Tank N	NT02 Tank E	NT02 Tank S	NT02 Tank Base
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-031413

Project / Site name: Victoria North

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
260789	ash fill 1	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation
260790	ash fill 2	None Supplied	None Supplied	Brown loam and clay with gravel
260791	ash fill 3	None Supplied	None Supplied	Brown loam and clay with gravel and stones
260792	ash fill 4	None Supplied	None Supplied	Brown loam and clay with gravel
260793	ash fill 5	None Supplied	None Supplied	Brown loam and clay with gravel
260794	NT02 Tank N	None Supplied	None Supplied	Brown sandy loam with gravel
260795	NT02 Tank E	None Supplied	None Supplied	Brown sand with gravel
260796	NT02 Tank S	None Supplied	None Supplied	Brown sand with gravel
260797	NT02 Tank Base	None Supplied	None Supplied	Brown clay and sand with gravel and stones

Analytical Report Number : 24-031413

Project / Site name: Victoria North

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-031413
Project / Site name: Victoria North

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

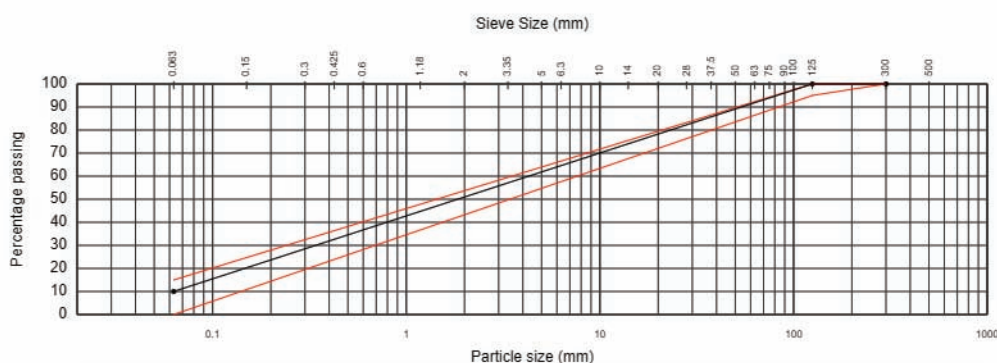
Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

TEST REPORT: DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in accordance with BS 1377 - 2 : 1990, Method 9.2 Washing & Dry Sieving and BS 1377 - 2 : 1990, Method 3.2

REPORT NUMBER:	C1087613 / 299203.3.1.1	CLIENT:	Provectus Remediation Ltd
SAMPLE NUMBER:	470459	ADDRESS:	Regent House , Bath Avenue , Wolverhampton , WV1 4EG
CLIENT REF:	DN6381/1	SITE:	Central Manchester
DATE SAMPLED:	06/06/2024	SOURCE / SUPPLIER:	Ex-Site, N/S
SAMPLED BY:	Client	MATERIAL DESCRIPTION:	Black clayey very sandy GRAVEL (Crushed Brick, Occasional Cobbles)
DATE RECEIVED:	10/06/2024	PROPOSED CLASSIFICATION:	Class 1A
DATE COMPLETED:	19/06/2024	LOCATION:	Ash Fill
TESTED BY:	CL, CA, PC	PREPARATION METHOD:	BS 1377:Part 1:2016 clause 8.3 & 8.4.5
TYPE OF SAMPLE:	Disturbed	SAMPLING PLAN:	Client Specification
VARIATIONS:	No variations	LOCATION AND ORIENTATION WITHIN SAMPLE:	Ash Fill
METHOD OF SAMPLING:	Sampled by client		
ENVIRONMENTAL CONDITIONS:	Overcast		

RESULT Test Location: CTS Doncaster Soils


Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
SILT/CLAY	SAND		GRAVEL			COBBLE		BOULDERS

Percentage BOULDERS: 0%
Percentage COBBLES: 0%
Percentage GRAVEL: 70%
Percentage SAND: 20%
Percentage SILT/CLAY: 10%

Applied Specification: Class 1A - Specification for Highway Works (2016) Table 6/2 Earthworks Materials - Class 1A
Specification stated as requested, no indication of conformity applied

SIEVE ANALYSIS

Particle Diameter mm	Passing %	Specification Limits
500	100	
300	100	100 - 100
125	100	95 - 100
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	86	
28	80	
20	72	
14	63	
10	55	
6.3	45	
5	41	
3.35	35	
2	30	
1.18	27	
0.6	24	
0.425	22	
0.3	19	
0.15	13	
0.063	10	0 - 15

Remarks:

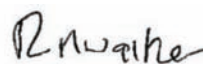
Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.
Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. The laboratory does not apply a conformity statement to test reports as standard, unless specifically requested by the customer.

Report Format: PSDsoil/TP02/Rep Issue 1 Rev 1 09/23

Bootham Lane Industrial Estate,
Dunscroft,
Doncaster,
South Yorkshire DN7 4JU

0343 227 8545
enquiries@constructiontesting.co.uk
www.constructiontesting.co.uk
END OF REPORT

For and on behalf of CTS
Reece Walker - Senior Technician



Approved Signatory
Report date 05-Jul-24

Construction Testing Solutions Ltd.
Registered in England No. 05998333

Report version 1



4161

Page 1 of 1

CERTIFICATE OF ANALYSIS



Environmental Science

MULTI-SAMPLE
REPORT REFERENCE
11105-2

REGISTERED
DATE
07/05/2024

RECEIVED
DATE
14/05/2024

ANALYSIS
STARTED
15/05/2024

ANALYSIS
COMPLETE
30/05/2024

Replaces certificate of analysis 11105-1

LABORATORY

i2 Analytical
Croxley Green Business Park
7 Woodshots Meadow
Watford
WD18 8YS

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

AIR VOLUME (L)	81	PO NUMBER	11181
CLIENT CODE	101221	PRE PRINTED BARCODE	749621
CLIENT SITE	Victoria North	SAMPLE REFERENCE	Background 080524
DATE SAMPLED (DD/MM/YY)	09/05/2024		

Matrix: Tenax TD Tube

Determinand	Technique	LOD	i2 Sample Number	
			Accreditation	765096
Misc Charge	T352	0.0	None	Complete
Number of significant peaks	T352	0.0	None	45
Total VOC (excluding Targets)	T352	10.0 ng	None	2200
Total VOC (excluding Targets) mg/m3	T352	0.0 mg/m3	None	0.0275
VOC TIC1 Quant	T352	10.0 ng	None	480 - Benzoic Acid
VOC TIC1 Quant mg/m3	T352	0.0 mg/m3	None	0.0059
VOC TIC10 Quant	T352	10.0 ng	None	190 - Nonanal
VOC TIC10 Quant mg/m3	T352	0.0 mg/m3	None	0.0024
VOC TIC11 Quant	T352	10.0 ng	None	190 - 2,3-dihydro-5-methyl-1H-Indene
VOC TIC11 Quant mg/m3	T352	0.0 mg/m3	None	0.0023
VOC TIC12 Quant	T352	10.0 ng	None	180 - Acetophenone
VOC TIC12 Quant mg/m3	T352	0.0 mg/m3	None	0.0023
VOC TIC13 Quant	T352	10.0 ng	None	170 - Benzaldehyde
VOC TIC13 Quant mg/m3	T352	0.0 mg/m3	None	0.0021
VOC TIC14 Quant	T352	10.0 ng	None	160 - Naphthalene
VOC TIC14 Quant mg/m3	T352	0.0 mg/m3	None	0.0019
VOC TIC15 Quant	T352	10.0 ng	None	160 - 1,2,4-trimethyl benzene ⁴⁷⁵
VOC TIC15 Quant mg/m3	T352	0.0 mg/m3	None	0.0019
VOC TIC16 Quant	T352	10.0 ng	None	150 - 1,2,3,4-tetrahydro-naphthalene
VOC TIC16 Quant mg/m3	T352	0.0 mg/m3	None	0.0018
VOC TIC17 Quant	T352	10.0 ng	None	140 - Decane
VOC TIC17 Quant mg/m3	T352	0.0 mg/m3	None	0.0017
VOC TIC18 Quant	T352	10.0 ng	None	140 - m/p-Xylene
VOC TIC18 Quant mg/m3	T352	0.0 mg/m3	None	0.0017
VOC TIC19 Quant	T352	10.0 ng	None	130 - 1-methyl-2-(2-propenyl)-benzene
VOC TIC19 Quant mg/m3	T352	0.0 mg/m3	None	0.0016
VOC TIC2 Quant	T352	10.0 ng	None	410 - Dodecane
VOC TIC2 Quant mg/m3	T352	0.0 mg/m3	None	0.0050
VOC TIC20 Quant	T352	10.0 ng	None	120 - 3-methyl undecane
VOC TIC20 Quant mg/m3	T352	0.0 mg/m3	None	0.0015
VOC TIC3 Quant	T352	10.0 ng	None	330 - 6-ethyl undecane ⁴⁷⁵
VOC TIC3 Quant mg/m3	T352	0.0 mg/m3	None	0.0040
VOC TIC4 Quant	T352	10.0 ng	None	270 - Undecane
VOC TIC4 Quant mg/m3	T352	0.0 mg/m3	None	0.0033
VOC TIC5 Quant	T352	10.0 ng	None	240 - 2,6-Dimethyl undecane
VOC TIC5 Quant mg/m3	T352	0.0 mg/m3	None	0.0030
VOC TIC6 Quant	T352	10.0 ng	None	230 - Decanal

Determinand	i2 Sample Number			765096
	Technique	LOD	Accreditation	
VOC TIC6 Quant mg/m3	T352	0.0 mg/m3	None	0.0029
VOC TIC7 Quant	T352	10.0 ng	None	230 - 2,3-dihydro-1,1-dimethyl-1H-Indene
VOC TIC7 Quant mg/m3	T352	0.0 mg/m3	None	0.0028
VOC TIC8 Quant	T352	10.0 ng	None	200 - Pentamethyl-benzene
VOC TIC8 Quant mg/m3	T352	0.0 mg/m3	None	0.0025
VOC TIC9 Quant	T352	10.0 ng	None	200 - 3-methyl dodecane
VOC TIC9 Quant mg/m3	T352	0.0 mg/m3	None	0.0025

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager
Mrs Kathryn Holt	Senior Customer Service Advisor

Extra Testing Information

Technique Code	Technique Name	Samples
T352	AIR02-1-GCMS-TD	765096

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z.o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	765096

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.

Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement of uncertainty can be provided on request.

This is a simplified test report

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

Results in black are positive/detected results. Results in gray are below the LOD or have not been found.

LOD = Limit of Determination. This is the lowest reportable limit of the test.

The multi-sample report reference takes the form of [job number]-[version number].

475 - Additional compounds have been identified within 1% of the library best fit.

CERTIFICATE OF ANALYSIS



Environmental Science

MULTI-SAMPLE
REPORT REFERENCE

11481-1

REGISTERED
DATE

04/06/2024

RECEIVED
DATE

20/06/2024

ANALYSIS
STARTED

21/06/2024

ANALYSIS
COMPLETE

01/07/2024

LABORATORY

i2 Analytical
Croxley Green Business Park
7 Woodshots Meadow
Watford
WD18 8YS

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE	101221	PRE PRINTED BARCODE	792051
CLIENT SITE	Victoria North	SAMPLE REFERENCE	TCE 130624
DATE SAMPLED (DD/MM/YY)	13/06/2024	SAMPLING TIME (MIN)	790
PO NUMBER	11181		

Matrix: Tenax TD Tube

Determinand	Technique	LOD	i2 Sample Number 782265	
			Accreditation	
Number of significant peaks	T352	0.0	None	74
Total VOC (excluding Targets)	T352	10.0 ng	None	2500
Total VOC (excluding Targets) mg/m3	T352	0.0 mg/m3	None	7.26
VOC TIC1 Quant	T352	10.0 ng	None	1000 - Benzoic Acid
VOC TIC1 Quant mg/m3	T352	0.0 mg/m3	None	4.11 ⁴⁸³
VOC TIC10 Quant	T352	10.0 ng	None	98 - Benzoyl bromide
VOC TIC10 Quant mg/m3	T352	0.0 mg/m3	None	0.386 ⁴⁸³
VOC TIC2 Quant	T352	10.0 ng	None	1400 - Trichloroethylene
VOC TIC2 Quant mg/m3	T352	0.0 mg/m3	None	6.24
VOC TIC3 Quant	T352	10.0 ng	None	350 - Toluene
VOC TIC3 Quant mg/m3	T352	0.0 mg/m3	None	1.38
VOC TIC4 Quant	T352	10.0 ng	None	210 - Benzaldehyde
VOC TIC4 Quant mg/m3	T352	0.0 mg/m3	None	0.846 ⁴⁸³
VOC TIC5 Quant	T352	10.0 ng	None	150 - m/p-Xylene
VOC TIC5 Quant mg/m3	T352	0.0 mg/m3	None	0.532
VOC TIC6 Quant	T352	10.0 ng	None	130 - Acetophenone
VOC TIC6 Quant mg/m3	T352	0.0 mg/m3	None	0.517 ⁴⁸³
VOC TIC7 Quant	T352	10.0 ng	None	120 - Nonanal
VOC TIC7 Quant mg/m3	T352	0.0 mg/m3	None	0.460 ⁴⁸³
VOC TIC8 Quant	T352	10.0 ng	None	110 - Hexanal
VOC TIC8 Quant mg/m3	T352	0.0 mg/m3	None	0.387 ⁴⁸³
VOC TIC9 Quant	T352	10.0 ng	None	98 - 1,2,4-trimethyl benzene
VOC TIC9 Quant mg/m3	T352	0.0 mg/m3	None	0.386

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager
Yacub Mohamed	Customer Service Advisor

Extra Testing Information

Technique Code	Technique Name	Samples
T352	AIR02-1-GCMS-TD	782265

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z.o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	782265

The mg/m3 result for the following compounds has been calculated using the passive uptake rate of Toluene
Total VOC (excluding Targets)

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.
Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement of uncertainty can be provided on request.
This is a simplified test report
This certificate should not be reproduced, except in full, without the express permission of the laboratory.
Results in black are positive/detected results. Results in gray are below the LOD or have not been found.
LOD = Limit of Determination. This is the lowest reportable limit of the test.
The multi-sample report reference takes the form of [job number]-[version number].
483 - Uptake rate used to calculate mg/m3 is based on Toluene



CERTIFICATE OF ANALYSIS



Environmental Science

MULTI-SAMPLE
REPORT REFERENCE

11732-1

REGISTERED
DATE

04/06/2024

RECEIVED
DATE

15/07/2024

ANALYSIS
STARTED

15/07/2024

ANALYSIS
COMPLETE

23/07/2024

LABORATORY

i2 Analytical
Croxley Green Business Park
7 Woodshots Meadow
Watford
WD18 8YS

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE	101221	PRE PRINTED BARCODE	749745
CLIENT SITE	Victoria North	SAMPLE REFERENCE	TCE 110724
DATE SAMPLED (DD/MM/YY)	13/07/2024	SAMPLING TIME (MIN)	960
PO NUMBER	11181		

Matrix: Tenax TD Tube

Determinand	i2 Sample Number			782266
	Technique	LOD	Accreditation	
Number of significant peaks	T352	0.0	None	43
Total VOC (excluding Targets)	T352	10.0 ng	None	1400
Total VOC (excluding Targets) mg/m3	T352	0.0 mg/m3	None	3.37
VOC TIC1 Quant	T352	10.0 ng	None	1500 - Naphthalene
VOC TIC1 Quant mg/m3	T352	0.0 mg/m3	None	4.05
VOC TIC10 Quant	T352	10.0 ng	None	110 - Toluene
VOC TIC10 Quant mg/m3	T352	0.0 mg/m3	None	0.360
VOC TIC2 Quant	T352	10.0 ng	None	300 - m/p-Xylene
VOC TIC2 Quant mg/m3	T352	0.0 mg/m3	None	0.879
VOC TIC3 Quant	T352	10.0 ng	None	210 - 1-Ethenyl-2-methylbenzene ^{475, 483}
VOC TIC3 Quant mg/m3	T352	0.0 mg/m3	None	0.672
VOC TIC4 Quant	T352	10.0 ng	None	180 - Benzoic Acid ⁴⁸³
VOC TIC4 Quant mg/m3	T352	0.0 mg/m3	None	0.574
VOC TIC5 Quant	T352	10.0 ng	None	140 - Nonanal ⁴⁸³
VOC TIC5 Quant mg/m3	T352	0.0 mg/m3	None	0.445
VOC TIC6 Quant	T352	10.0 ng	None	130 - Ethyl Benzene
VOC TIC6 Quant mg/m3	T352	0.0 mg/m3	None	0.384
VOC TIC7 Quant	T352	10.0 ng	None	120 - 1-ethyl-3-methylbenzene ^{475, 483}
VOC TIC7 Quant mg/m3	T352	0.0 mg/m3	None	0.401
VOC TIC8 Quant	T352	10.0 ng	None	120 - 1,2,4-trimethyl benzene
VOC TIC8 Quant mg/m3	T352	0.0 mg/m3	None	0.350
VOC TIC9 Quant	T352	10.0 ng	None	110 - o-Xylene
VOC TIC9 Quant mg/m3	T352	0.0 mg/m3	None	0.344

Technical Reviewer Role

Mrs Jeanette Abbott	Customer Service Manager
Mrs Kathryn Holt	Senior Customer Service Advisor

Extra Testing Information

Technique Code	Technique Name	Samples
T352	AIR02-1-GCMS-TD	782266

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z.o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	782266

The mg/m3 result for the following compounds has been calculated using the passive uptake rate of Toluene
Total VOC (excluding Targets)

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.
Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement of uncertainty can be provided on request.
This is a simplified test report
This certificate should not be reproduced, except in full, without the express permission of the laboratory.
Results in black are positive/detected results. Results in gray are below the LOD or have not been found.
LOD = Limit of Determination. This is the lowest reportable limit of the test.
The multi-sample report reference takes the form of [job number]-[version number].
475 - Additional compounds have been identified within 1% of the library best fit.
483 - Uptake rate used to calculate mg/m3 is based on Toluene



STOCKPILE VOLUMES

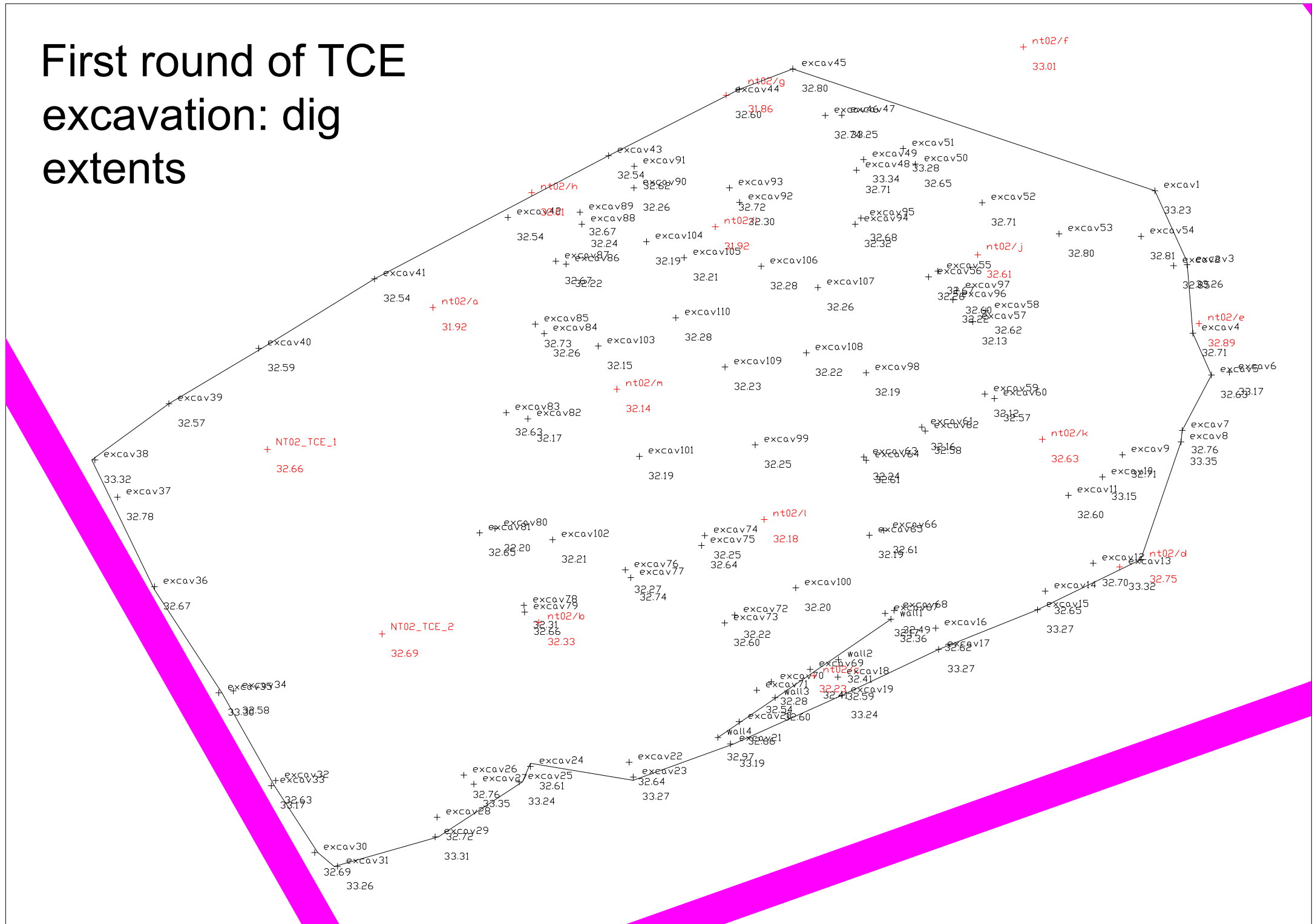
Manchester North
21.06.2024

Legend

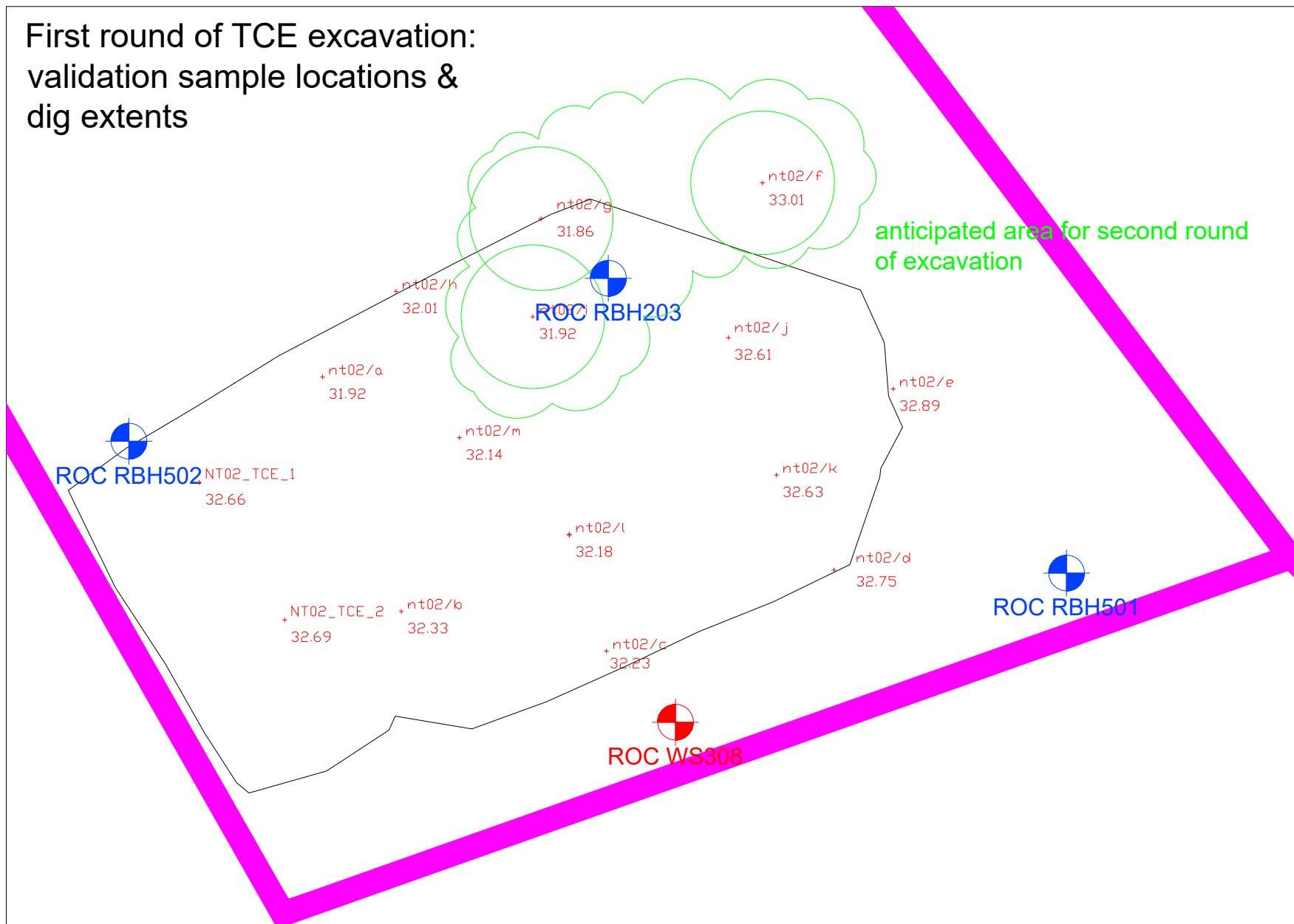
-  STOCKPILE A = 242m³
-  STOCKPILE B = 117m³



First round of TCE excavation: dig extents

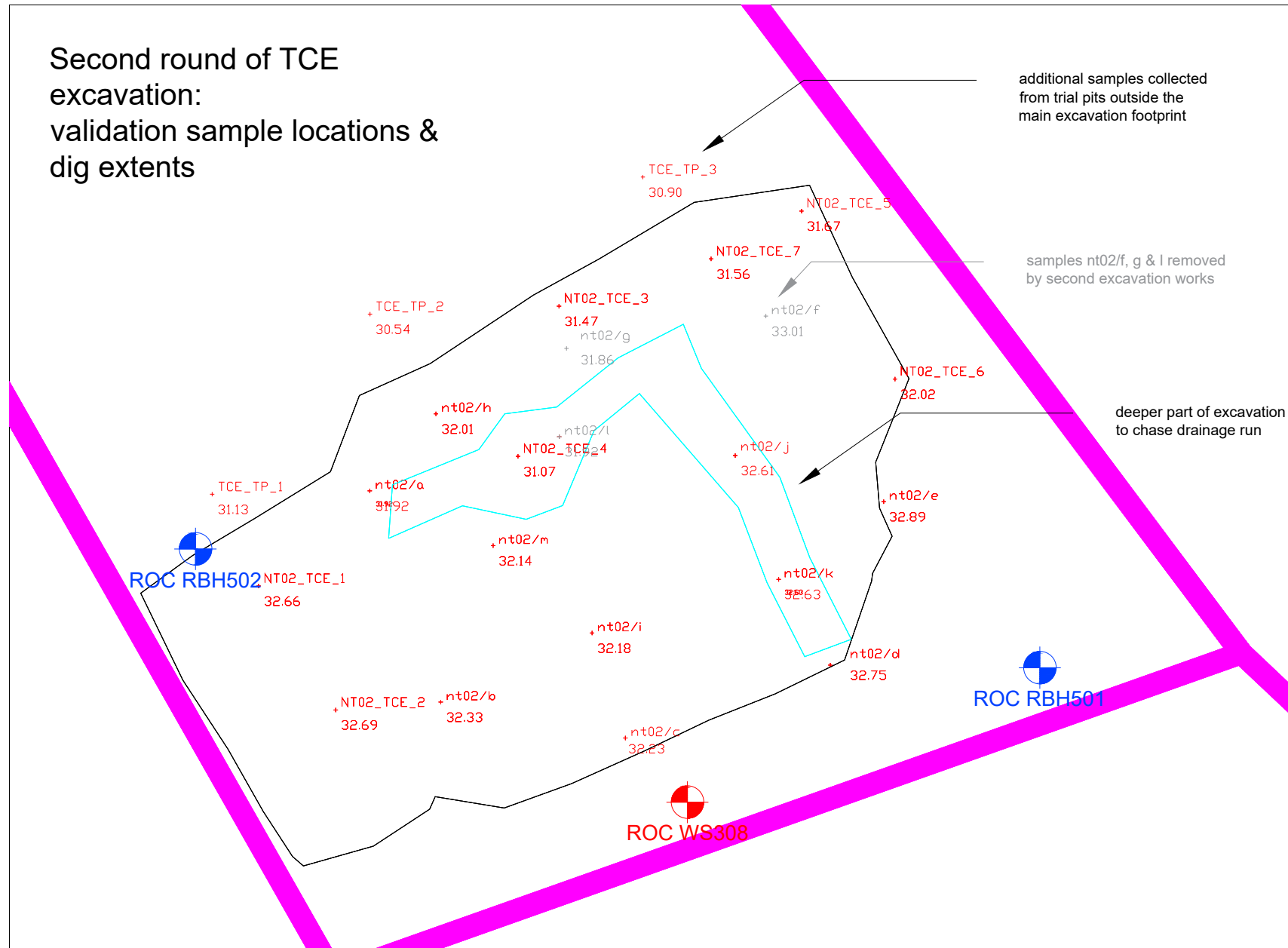


First round of TCE excavation:
validation sample locations &
dig extents



Second round of TCE excavation: validation sample locations & dig extents

Second round of TCE
excavation:
validation sample locations &
dig extents





Facing west in TCE area.

First round of excavations. note BH203 and visqueen covered stockpiles to right



Facing north west in TCE area during first round of excavations



Facing east in TCE area. Note standoff from garage retaining wall to right



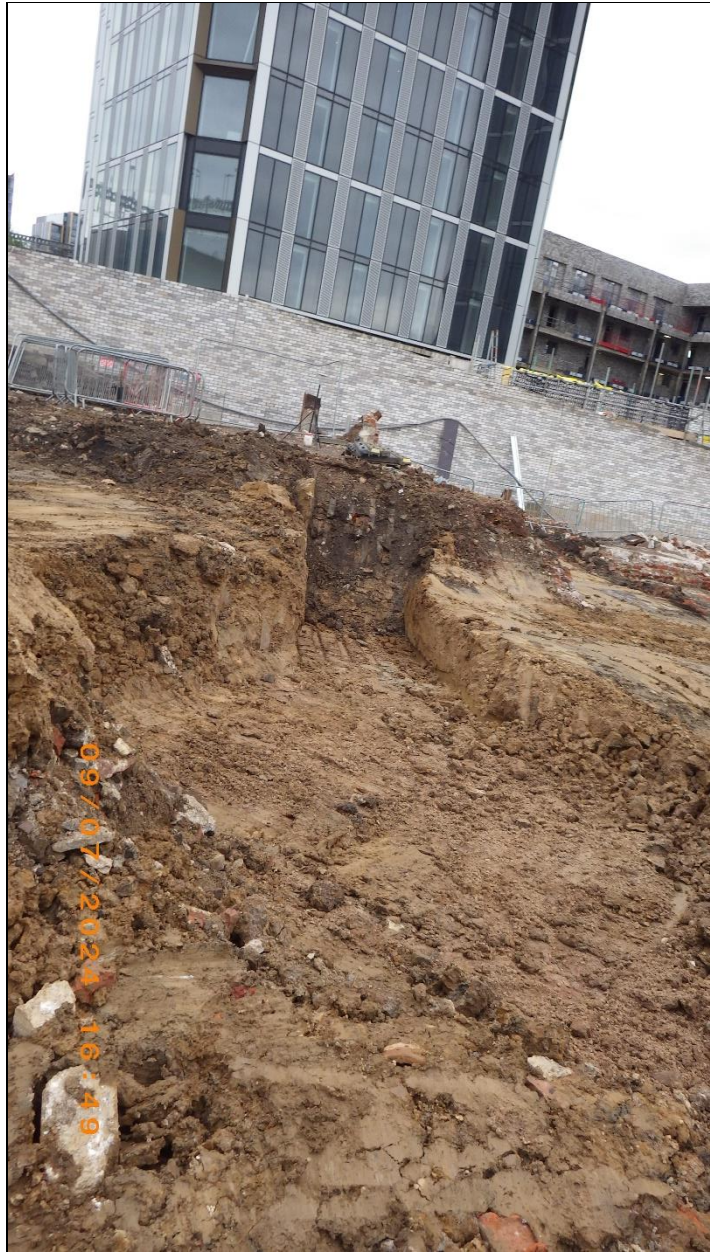
Facing south, note standoff from garage retaining wall



Second round of excavation works: soils being loaded from TCE



Facing east, second round continuing



Facing west, drainage run encountered and excavated



Facing south, TCE area post-upfill. Concrete rings now placed around BHs