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GRO-21459-P02	1.2	Phase Plan
GRO-21459-P12	1.2	Exploratory Hole Plan (Gas Wells)
GRO-21459-P13	1.1	Vapour Membrane Plan
333-20-009	-	VOC isopachytes Phases 2A and 2B

1.0 INTRODUCTION

1.1 Objectives

This verification report has been produced by Groundtech Consulting on behalf of Urban Regen. The report focuses on the remediation and earthworks undertaken at Phase 2A of Tetrosyl Bevis Green Works in accordance with the remediation strategy undertaken by Smith Grant, referenced R2174-R11-V5 and dated January 2023.

The remediation earthworks completed to date in Phase 2A has been taken over several different phases as outline below:

- *Concurrently with Phase 1A Remediation.*
- *HS10, HS11 & HS13 pollution prevention works (excavation of secondary pollution sources in soils) in Phase 2A and 2B.*
- *HS9 Pollution prevention works (excavation of secondary pollution sources in soils) in Phase 2A.*

The content of the validation report is based on information provided by other parties and Groundtech understand the records are factually correct.

1.2 Proposed Works

The proposed development of Phase 2A is residential end use comprising the construction of 25 No. residential dwellings with private gardens, driveways and hardsurfacing as part of the Barratt Homes development.



1.3 Previous work

Smith Grant LLP have previously undertaken a Detailed Remedial Strategy referenced *R2174-R11-V5* and dated January 2023 which should be read in conjunction with this verification report.

2.0 SUMMARY OF REMEDIAL SPECIFICATION

A detailed Remedial Strategy has been produced by Smith Grant LLP which covers Phase 2A, referenced R2174-R11-V5 and dated January 2023. A summary of the remedial specification information relevant to Phase 2A is provided below.

2.1 Remediation Objectives

The remediation objects relevant to Phase 2A included the following:

- *Break significant or potentially significant future pollutant linkages resulting from the change of land use*
- *Remove/remediate significant pollution sources if identified during the works that pose a risk to man and/or the environment.*
- *Recover materials with the potential for re-use within the development (specifically soils which may be used in gardens, engineering fill materials required to achieve the planned development levels, and aggregates for use in construction.*
- *Minimise the generation of wastes requiring disposal off-site by maximising the re-use of soils and demolition materials.*
- *Respond appropriately to contingencies in particular any discovery of currently uncharacterised contamination.*
- *Manage all emissions to air and water to protect local-residents (including future occupants of Phase 1), surface waters and groundwater, and the atmosphere during the remediation works*
- *Provide appropriate secondary protection measures to be implemented during construction, including building gas barriers, water mains protection, and garden / open space cover soils of specified quality and thickness.*

2.2 Scope of Remediation Earthworks

Enabling works include the following:

- *Demolition of existing buildings and topsoil strip*
- *Establishment of security fencing, site offices and welfare facilities*
- *Vegetation clearance*
- *Removal of surface waste deposits*

The remediation earthworks include:

- *Removal of ground floor slabs, roads, relict foundations, and other sub-structures.*
- *Excavation of made ground materials to allow inspection of ground conditions and facilitate the removal of secondary contamination sources with potential to pollute groundwater.*
- *Excavation of impacted materials from the HS10, HS11 and HS13 hydrocarbon hotspots and removal of the arisings to an area within the wider development for either treatment or disposal.*

The remediation works undertaken to date were carried out in accordance with EA response (Ref: SO/2020/120065/05-L01) for the purpose of preventing pollution occurring through the release of dangerous substances and entering the groundwater.

3.0 PHASE 2A REMEDIATION

3.1 Phase 2A Earthworks & Remediation

Smith Grant & Urban Regen have undertaken the remediation earthworks in Phase 2A in line with the remedial specification. The remediation and earthworks in Phase 2A were partly undertaken concurrently with Phase 1 remediation and earthworks exercise, and under a programme of enabling and pollution prevention exercises completed across Phase 2 to allow the completion of supplementary site investigation and reduce risks of pollution from residual primary and secondary pollution sources.

The objectives of the remediation earthworks are presented in Section 2.1 and consist of the removal of all primary and secondary sources of contamination to a suitable level.

An illustration of the validation works undertaken in Phase 2A as part of Phase 1 mobilisation are provided in the following sections of the report.

3.2 Validation Works - 25th June 2020

Smith Grant visited site on 25th June 2020 following the demolition of Tetrosyl factory buildings/outbuildings and removal of surface structures including IBCs and drums.



Photograph 1 – North eastern corner of northern building in Phase 2A.



Photograph 2 – HS11 (left) and former roadway in Phase 2A



Photograph 3 – Former quarry store



Photograph 4 – Former building in northern area of Phase 1

3.3 Validation Works - 16th July 2020

Smith Grant LLP visited the site on 16th July 2020 to observe the beginning of the earthworks in Phase 1. During this visit, excavation of HS15 was undertaken in the central section of Phase 1. Validation testing of this hotspot indicated elevated TPHs however these were considered to be mitigated with the approved cover system and VOC protection measures. The below photograph illustrates the break out of the concrete floor slab within Phase 2A. Smith Grant provided observation of the excavation and replacement of soils in this area during the visit.



Photograph 5 – Northern end of Phase 1 (right) & Phase 2A (left)

3.4 Validation Works - 13th August 2020

Smith Grant undertook a site walkover to inspect the remediation earthworks undertaken between 16th July 2020 and 13th August 2020 which comprised the excavation and replacement of Made Ground soils in the western area of Phase 1, crushing of hardstanding recovered from Phase 1 to produce aggregate for reuse onsite and the excavation/replacement of made ground soils completed in Phase 1.



Photograph 6 – View northwest of Phase 1 from Phase 2A

Excavation of the Made Ground soils directly beneath the footprint of the former building was undertaken as part of the reduced level dig.



Photograph 7 – Southwestern area of Phase 1 from Phase 2A



Photograph 8 – Centre of Phase 1 from Phase 2A



Photograph 9 – HS13 tanks



Photograph 10 – Southern section of site from northern Phase 2A

3.5 Validation Works - 17th August 2020

A site inspection was carried out by Smith Grant on 17th August 2020 to observe the regrade of site levels in the north and compaction of the relocated soils. The photograph below shows the compacting of site won natural cohesive soils from Phase 1, in the northern end of Phase 2A at the position of the former quarry and HS14.



Photograph 11 – Upfilling of site levels at Phase 1/Phase 2A boundary

3.6 Validation Works - 2nd September 2020

Smith Grant undertook a site walkover on 2nd September 2020 to observe the ongoing earthworks in Phase 2A. It is noticeable that the eastern section of Phase 2A has not been remediated yet, with the only remediation currently undertaken being in the western area alongside Phase 1.



Photograph 12 – Phase 2 B to east from Phase 2A



Photograph 13 – Former roadway at Phase 2A (right) from quarry area

3.7 Validation Works - November 2020

A reduced level dig was undertaken to the elevated north eastern part of Phase 2A formerly occupied by the historical quarry and later IBC storage area. Ground levels were reduced by approximately 1m and the materials stockpiled elsewhere in Phase 2 for subsequent use in the planned site regrade. During the exercise no olfactory or visual indicators of contamination were noted.



Photograph 14 – View north from southern boundary of Phase 2A



Photograph 15 – View north from southern boundary of Phase 2A



Photograph 16 – Reduced level dig of former quarry north Phase 2A



Photograph 17 – Reduced level dig of former quarry north Phase 2A

3.8 Validation Works - December 2020

A reduced level dig was undertaken to the elevated north-western of Phase 2A formerly occupied by the historical quarry and later IBC storage area. Ground levels were reduced by approximately 1m and the materials stockpiled elsewhere in Phase 2 for subsequent use in the planned site regrade. During the exercise no olfactory or visual indicators of contamination were noted.



Photograph 18 – Reduced level dig of former quarry (Phase 2A)



Photograph 19 – Reduced level dig of former quarry (Phase 2A)

3.9 Validation Works – 01 February 2021

A further proof dig was undertaken over the quarry area to prove the locations of the highwalls but the excavations were not progressed beyond these due to rapid groundwater ingress (the base of the quarry was proved in drilling for the subsequent groundwater monitoring programme in RBH323 RBH329 & RBH330).



Photograph 20 – Proof dig of upper fills in quarry north Phase 2A



Photograph 21 – Proof dig of upper fills in quarry north Phase 2A



Photograph 22 – Proof dig of upper fills in quarry north Phase 2A



Photograph 23 – Proof dig of upper fills in quarry north Phase 2A

3.10 Validation Works – 05 February 2021

A site visit was undertaken by Smith Grant at Phase 2A to observe the site levels following the completion of the quarry proof dig, as displayed in the image below.



Photograph 24 – Completion of the northern Phase 2A area following reduced level dig and proof dig to former quarry

An illustration of the observed extent of the quarry high wall is provided below.



Photograph – Quarry wall location.

3.11 Validation Works – 25 February 2021

SGP undertook additional validation works in the eastern area of Phase 2A immediately south of HS10. The additional works consisted of the extension of the hotspot excavation in HS10 (Cell 6) further south and providing a watching brief for visual and olfactory evidence of contamination, to confirm the downgradient soils had not been significantly impacted by HS10.

It should be noted that the below works were carried out immediately after the remediation of Cell 6 at HS10, which is discussed in Section 4.1.



Photograph 25 – Stockpile of granular MG south of HS10 (Cell 6)



Photograph 26 – Manhole chamber in Phase 2A.



Photograph 27 – Manhole chamber in Phase 2A.



Photograph 28 – Granular MG immediately south of HS10

4.0 HOTSPOTS

Smith Grant LLP have produced a Remediation Earthworks Factual Report referenced *R2174C-R08-V1* and dated May 2021, relating to the verification of HS10, HS11 and HS13. A copy of the report is presented in *Appendix 3*.

The initial phase of works focused on the area of HS10, HS11 & HS13 which situated on the northern boundary of Phase 2A. Only the findings from Phase 2A are to be discussed in this report.

The excavations were carried out between the dates of 3rd February 2021 and 18th February 2021. Additional works were carried out in October 2021.

A plan highlighting the verification sampling locations beneath the remediated hotspot cells is provided in the table below and the sampling locations are discussed throughout the following sections of the report.

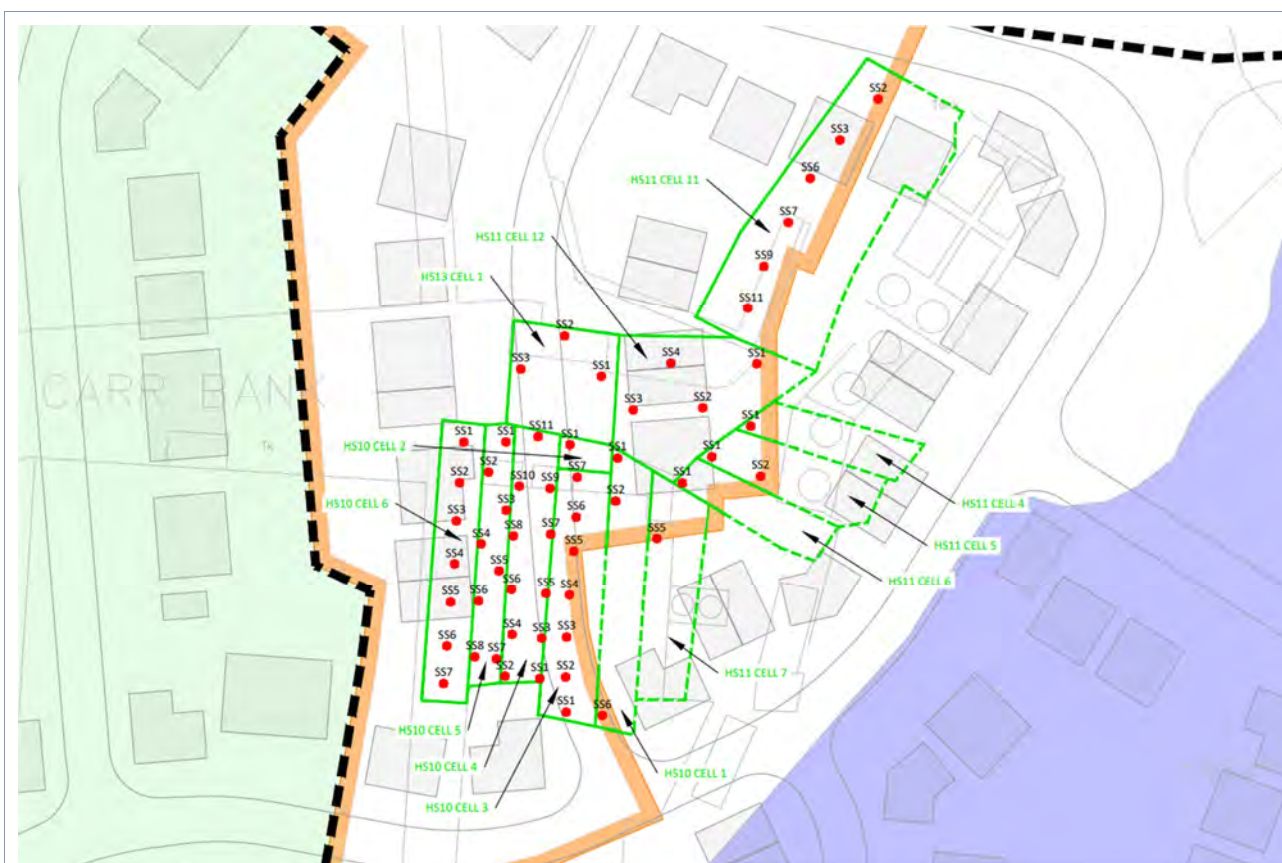


Table 1 – HS10 & HS11 sampling locations within Phase 2A. Orange line highlights Phase 2A boundary.

A detailed record of the remediation earthworks associated with HS10, HS11 & HS13 is provided in Section 4.1.

4.1 Hotspot 10 (HS10)

The western extent of HS10 is located in Phase 2A, the central sections of Cell 1 are not indicted to be positioned within Phase 2A and will not be discussed.

As mentioned in Section 4.0, hotspot validation has already been carried out within Cells 1 to 5 and the validation of the remedial work has been presented within the Smith Grant verification report appended. A brief description of the works relevant to Phase 2A is provided below:

- *SGP attended site on 03 February to 16 February 2021 to oversee and validate the removal of impacted soils associated with HS10 hydrocarbon hotspot. All soils with visual/olfactory evidence of contamination was removed and a PID screening value of 50ppm was used, as per remedial specification.*
- *The ground conditions comprised variable Made Ground deposits with the eastern area being less than 1.0m bgl and the western area being up to 3.5m in thickness and comprising relict foundations, brick, concrete, timber, slate and scrap metal. Glacial till deposits were typically present beneath the Made Ground in the east. The bedrock was encountered in all cells beneath the Made Ground and glacial till at 2.5m to 3.5m bgl.*
- *Moderate to strong hydrocarbon odours were encountered in the Made Ground clay however PID readings of over 1,000ppm were present in the bedrock in the northern area of HS10. the excavations extended to the full depth of the made ground and superficial strata and included the weathered upper part of the Rough Rock formation to competent sandstone strata.*
- *Sparking was noted in Cell 2 while scraping the bedrock igniting vapours accumulated in poor spaces. A series of small flames were visible for a period of several minutes before the fire was extinguished by placement of additional soils on top of the material. PID readings of greater than 1,000ppm were recorded.*
- *The excavation of HS10 was approximately 700m² and approximately 600m³ of impacted soils were removed and placed in Phase 2C.*
- *Perched groundwater was encountered in the granular made ground at the western area of HS10 within drains/pipes which flooded excavations with a hydrocarbon sheen. The water was contained in the foundations structures and recharge did not occur. Groundwater was encountered at 2.5m in the south of the excavations within the rock deposits.*

The SGP verification report was issued prior to the excavation of Cell 6. A description of the soil verification works is presented below and an updated GQRA using human health criteria is provided in the following section.

Cell 6

The remediation earthworks at Cell 6 was undertaken on 25th October 2021. The earthworks comprised the excavation of Made Ground soils from the north towards the southern extent of the cell.



Photograph 29 – Removal of concrete road (0.2m bgl) to north



Photograph 30 – Arisings from northern excavation



Photograph 31 – Sandstone Bedrock



Photograph 32 – Excavation at centre of cell

The excavation in the northern area comprised the removal of the circa 200mm thick concrete slab at the position of the former access road north of HS10. The arisings immediately beneath the concrete slab (0.2m to 0.4m bgl) comprised grey-stained, odorous, sandy gravelly cobbly sandstone bedrock. A PID reading of up to 74.8ppm was detected and the arisings were removed to the visqueen bunded contamination stockpile located on a relict slab in Phase 2D.

Sandstone bedrock was encountered at a minimum depth of 0.4m bgl in the north of the cell with foundations of former buildings identified to the west. Photograph 4 illustrates the southwards progression of the excavation where weathered Sandstone bedrock was present at 0.5m bgl with no odours or staining present. A PID value of 5.2ppm was noted and the material was considered not contaminated and was retained.



Photograph 33 – Southwards excavation progression



Photograph 34 – Exposed drainage run flooded excavation



Photograph 35 – Southern extent of excavation



Photograph 36 – Backfilled excavation

The progression of the excavation southwards indicated grey brown slightly clayey gravel/cobbles of sandstone and red brick present beneath the concrete slab at depths of between 0.2m and 0.4m bgl. The granular Made Ground was underlain by firm brown reworked clay to a maximum depth of 0.8m bgl where Sandstone bedrock was encountered. PID readings of up to 2.4ppm were recorded within the reworked clay, no odours were noted within the granular Made Ground. A drainage pipe was noted within the Sandstone bedrock at depths of between 0.8m and 1.3m bgl, no sheen or NAPL was noted as displayed in *Photograph 6*.

At the southern extent of the excavation of Cell 6, granular Made Ground underlain by reworked clay was present to depths of between 0.8m and 1.1m bgl. PID readings of up to 11.7ppm were recorded within the reworked clay material.

Adhering to the removal limit of 50ppm outlined in Smith Grant remedial specification, approximately 10m³ of impacted sandstone bedrock was removed from beneath the cell. The impacted material was then transferred to the southern section of Phase 2 and transferred to the visqueen bunded stockpile on a relict slab. High PID readings were not recorded in the granular (sandy gravel) or cohesive (reworked clay) Made Ground populations and therefore remained in-situ. The material used to backfill the excavation comprised of excavated material which met the threshold (<50ppm) as well as suitably clean site-won material from Phase 1.

Laboratory Testing

Geo-Environmental testing was scheduled on 40 samples of the base/sidewalls of the HS10 excavations in Phase 2A, in line with the Smith Grant remedial specification.

In accordance with LCRM, a Generic Quantitative Risk Assessment (GQRA) has been undertaken to determine the significance of the concentrations as derived through Geo-Environmental analysis.

The GQRA process comprises the comparison of the actual concentrations measured onsite with Generic Assessment Criteria (GACs) for the protection of human health.

The GACs used for the assessment of soil concentrations have been derived using the CLEA model. The GACs used and their ranking of importance are listed below:

- *Soil Guideline Values (SGVs) which demonstrate minimal risk.*
- *LQM/CIEH S4ULs which use the same toxicological data as the SGVs but different exposure criteria.*
- *C4SLs which demonstrate low risk.*

In deriving the GACs for use on Brownfield sites, we have assumed a 1% Soil Organic Matter unless the results indicate otherwise.

A summary of the Geo-Environmental Testing results for HS10 is presented below and GQRA screening values are in *Appendix 4*.

Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
<i>Aliphatic (EC5-EC6)</i>	<0.1 – 33	42	0	-
<i>Aliphatic (EC6-EC8)</i>	<0.1 – 1,067	100	11	Cell 3 (SS3), Cell 4 (SS1, SS4 to SS9), Cell 5 (SS3 to SS5).
<i>Aliphatic (EC8-EC10)</i>	<0.1 – 605	27	11	Cell 3 (SS3), Cell 4 (SS1, SS4 to SS9), Cell 5 (SS3 to SS5).
<i>Aliphatic (EC10-EC12)</i>	0.2 – 3,105.2	130	9	Cell 3 (SS3), Cell 4 (SS1, SS4 to SS9), Cell 5 (SS3 to SS5).
<i>Aliphatic (EC12-EC16)</i>	<4.0 – 925	1,100	0	-
<i>Aliphatic (EC16-EC21)</i>	<7.0 – 925	65,000	0	-
<i>Aliphatic (EC21-EC35)</i>	<7.0 – 481	65,000	0	-
<i>Aromatic (EC5-EC7)</i>	0.1 – 1.0	70	0	-
<i>Aromatic (EC7- EC8)</i>	<0.1 – 902	130	8	Cell 3 (SS3), Cell 4 (SS1, SS4 to SS8), Cell 5 (SS3 to SS5).
<i>Aromatic (EC8-EC10)</i>	<0.1 – 1,074	34	9	Cell 3 (SS3), Cell 4 (SS1, SS4, SS5, SS7, SS8), Cell 5 (SS3 to SS5)
<i>Aromatic (EC10-EC12)</i>	0.2 – 594.2	74	8	Cell 3 (SS3), Cell 4 (SS4 to SS8), Cell 5 (SS2 & SS8)
<i>Aromatic (EC12-EC16)</i>	<4.0 – 505	140	3	Cell 5 (SS2 & SS8), Cell 6 (S1).
<i>Aromatic (EC16-EC21)</i>	<7.0 – 1,185	260	4	Cell 4 (SS10), Cell 5 (SS2 & SS8), Cell 6 (S1).
<i>Aromatic (EC21-EC35)</i>	<7.0 – 1,393	1,100	0	-
<i>MTBE</i>	<5.0 – 9,849 ug/mg	49,000 ug/mg	0	-
<i>Benzene</i>	5.0 – 425 ug/mg	330 ug/mg	1	Cell 5 (SS4).
<i>Toluene</i>	5.0 – 493,467 ug/mg	610,000 ug/kg	0	-
<i>Ethylbenzene</i>	5.0 – 207,804 ug/mg	350,000 ug/kg	0	-
<i>Total Xylene</i>	10.0 – 866,051 ug/mg	240,000 ug/kg	7	Cell 5 (SS4 & SS5), Cell 3 (SS3), Cell 4 (SS1, SS4, SS5 & SS7).

Total Petroleum Hydrocarbons (TPH CWG)

Based on the site being developed residentially, elevated concentrations of low range Aliphatics (C6-C8, C8-C10 and C10-C12) and Aromatics (EC7-EC8, EC8-10, EC10-EC12, EC12-EC16 and EC16-EC21) have been recorded. No elevated concentrations of Aliphatics (EC10-EC12) have been recorded in any of the verification samples screened. However, significant elevations of Aromatic (EC10-EC12) have been detected within all of the Cells with the exception of Cell 6.

BTEX

Minor elevated levels of Benzene have been recorded above the screening values at a single sample within Cell 5. A dilution of 1-10x the concentration would be required to reach the calibration range.

All the detectable concentrations of Toluene and Ethylbenzene have been recorded at levels below the screening values.

Elevated concentrations of total Xylene have been recorded in levels of typically 1-10x greater than the residential screening values.

Summary of Risk to Phase 2A

Based on the results of the excavations into the cells at HS10, it is considered that the majority of secondary sources of contamination have been removed. However, it is evident that impacted bedrock deposits are present beneath the cells at HS10 within Phase 2A. The depth of the excavated bedrock soils within Cell 6 were recorded at 0.4m in the northern area to a maximum depth of 1.1m bgl in the south. Excavations deepened across the remaining cells to a maximum depth of 3.5m bgl.

Following the completion of the excavations, clean site won material from Phase 1 was used as backfill material which will act as a capping layer from contaminated soils. In addition, a clean cover system is to be installed which will be sufficient to mitigate the risk to site end users.

A passive sub floor ventilation is to be installed in the entirety of Phase 2A as part of site wide CS₂ gas precaution measures and a vapour resistant membrane is to be installed in all plots located within Phase 2A which will mitigate the migration of vapours to indoor spaces.

The specific remedial measures to mitigate the risk to site end users in Phase 2A are discussed in Section 7.0.

4.2 Hotspot 11 (HS11)

The majority of HS11 falls outside of Phase 2A and is situated within Phase 2B, the western extent of Cells 4, 5, 6, 11 & 12 and the northern extent of cell 7 encroach into Phase 2A.

The remediation earthworks of HS11 were undertaken between the dates of 3rd February and 17th February 2021 and consisted of the removal of impacted soils and replacement with suitably clean site won soils. A detailed report comprising the records of the HS11 remediation excavations is presented in Smith Grant Report R2174C-R08-V1 in Appendix 3. A summary of the works relevant to Phase 2A is provided below:

- *SGP attended site to oversee and validate the removal of impacted soils associated with HS11, following the standards outlined in the SGP remedial specification.*
- *Made ground conditions in HS11 were generally represented by a veneer of made ground of less than 1m comprising granular stone (sub-base to the former slabs and tank bases) with residual concrete slabs only present along the western access road (near Phase 2A). This was left in-situ until the final excavations (Cell12) to enable continued access.*
- *The extremely western area of HS11 (covers parts of Phase 2A) generally comprised cohesive fill to 2.5m bgl whereby competent rockhead was encountered. The upper 0.5m of the Rough rock was generally heavily weathered and recovered as sand, gravel and cobbles of sandstone.*
- *Moderate to strong hydrocarbon odours were sporadically encountered in the made ground and Till, however very strong hydrocarbon odours and PID readings in excess of 1,000ppm were more widely distributed in the upper weathered Rough Rock strata. Therefore, the excavations extended*

to the full depth of the made ground and superficial strata and included the weathered upper part of the Rough Rock formation to competent sandstone strata.

- The total area of the excavation is irregularly shaped and extends to approximately 1,880m². Approximately 1,000 m³ of impacted soils removed and subsequently placed on an impermeable surface in the central part of Phase 2.
- Apart from local ingress of perched water from the eastern trench and drain (Phase 2), which were blocked off, water ingress did not occur above the top of the Rough Rock sandstone unit. Based on previous monitoring data this is considered to be 'true' groundwater rather than a perched water body. A thin sheen or occasional globules of product were noted in the central and central eastern Cells 4, 5, 6 & 7; however, a discrete layer of floating product was only noted in the central part of Cell 1. It should be noted that these locations are located in Phase 2 and significant contamination was not noted in Phase 2A.

Laboratory Testing

Geo-Environmental testing was scheduled on 15 samples of the base/sidewalls of the HS11 excavations in Phase 2A, in line with the Smith Grant remedial specification.

A summary of the Geo-Environmental Testing results for HS11 is presented below and GQRA screening values are in Appendix 4.

Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
Aliphatic (EC5-EC6)	0.1 – 0.9	42	0	-
Aliphatic (EC6-EC8)	0.1 – 70.3	100	0	-
Aliphatic (EC8-EC10)	0.1 – 232.2	27	2	Cell 11 (SS3), Cell 7 (SS5)
Aliphatic (EC10-EC12)	0.2 – 355.5	130	3	Cell 5 (SS2), Cell 11 (SS2 & SS3)
Aliphatic (EC12-EC16)	4.0 – 312.0	1,100	0	-
Aliphatic (EC16-EC21)	7.0 – 72.0	65,000	0	-
Aliphatic (EC21-EC35)	7.0 – 151.0	65,000	0	-
Aromatic (EC5-EC7)	0.1 – 11.5	70	0	-
Aromatic (EC7-EC8)	0.1 – 198.9	130	1	Cell 11 (SS3)
Aromatic (EC8-EC10)	0.1 – 686.2	34	3	Cell 11 (SS3), Cell 12 (SS4), Cell 7 (SS5)
Aromatic (EC10-EC12)	0.2 – 186.7	74	3	Cell 5 (SS2), Cell 11 (SS3), Cell 7 (SS5)
Aromatic (EC12-EC16)	4.0 – 20.0	140	0	-
Aromatic (EC16-EC21)	7.0 – 46.0	260	0	-
Aromatic (EC21-EC35)	7.0 – 381.0	1,100	0	-
MTBE	5.0 – 2,051	49,000 ug/mg	0	-
Benzene	5.0 – 11,517	330 ug/mg	1	Cell 11 (SS11)
Toluene	17 – 198,841	610,000 ug/kg	0	-
Ethylbenzene	11 – 472,159	350,000 ug/kg	1	Cell 11 (SS3)
Total Xylene	60 – 580,963	240,000 ug/kg	1	Cell 11 (SS3)

Total Petroleum Hydrocarbons (TPH CWG)

Elevated concentrations of volatile range Aliphatics (EC8-EC10 & EC10-EC12) and Aromatic (EC8-EC10 & EC10-EC12) have been recorded within three of the samples screened (Cell 11 SS3, Cell 7 SS5 & Cell 12 SS4). Additionally, elevated low-range Aromatics (EC7-EC8) have been recorded within Cell 11 (SS3). All the elevated concentrations of TPHs have been recorded at between 1-10x the screening values and are not considered to be significantly high elevations.

BTEX

One sample (Cell 11 SS3) of the fifteen samples screened has been recorded at levels greater than residential screening values for Benzene, Ethylbenzene and Total Xylene. Typically, a dilution of 1-10x would be required for the sample to meet the calibration range however a dilution of 10-100x would be required for Benzene.

Summary of Risk to Phase 2A

Any impact bedrock deposits were removed based on visual or olfactory evidence of contamination and using a PID value of less than 50ppm. Suitably clean site won material sourced from Phase 1 has been used to backfill the excavations as replacement fill to the removed impacted bedrock. A clean cover system comprising a 600mm capping layer and demarcation layer is to be installed which will mitigate the linkage to end site users.

Additionally, a passive ventilation system is to be installed beneath the plots in addition to a vapour resistant membrane which will inhibit the migration of vapours to end site users. The specific remedial measures to mitigate the risk to site end users in Phase 2A are discussed in Section 7.0.

4.2 Hotspot 13 (HS13)

The entirety of HS13 situates with a single cell at the centre of Phase 2A and similarly to HS11, the excavation in HS13 was undertaken under the supervision of Smith Grant on 18th February 2021.

Details of the remediation earthworks at HS13 are presented in the Smith Grant remediation earthworks interim completion report. A summary of the remediation works is provided below:

- *SGP attended site on 18th February 2021 to oversee the excavation and remediation of HS13. Similarly to HS10, excavation of the soils was undertaken in line with the SGP remediation specification.*
- *Ground conditions comprised granular Made Ground to a maximum depth of 1.5m bgl. Some visual evidence of contamination was noted in the form of dark staining and chemical/hydrocarbon odour was encountered and the Made Ground was removed to the contamination stockpile in Phase 2C.*
- *No hydrocarbon contamination was noted in the remaining Made Ground or natural clay, maximum PID concentrations of 20ppm were detected.*
- *Excavations progressed to the full depth of Made Ground and clay into the bedrock at maximum depth of 2.0m bgl.*
- *The excavation was approximately 180m² in area and approximately 200m³ of impacted soils were removed and placed in Phase 2C.*
- *Groundwater was not encountered with the exception of ingress of perched water from the quarry to the north.*

The Smith Grant verification report recorded exceedances within one of the three samples screened based on residential screening values. A summary of the results is presented in the table below.

Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
Aliphatic (EC5-EC6)	<1.0	42	0	-
Aliphatic (EC6-EC8)	<0.1 – 1	100	0	-
Aliphatic (EC8-EC10)	<0.1 – 2.2	27	0	-
Aliphatic (EC10-EC12)	<0.2 – 432.2	130	1	Cell 1 (SS3)
Aliphatic (EC12-EC16)	<4 – 972	1,100	0	-
Aliphatic (EC16-EC21)	<7 – 1032	65,000	0	-
Aliphatic (EC21-EC35)	<7 – 397	65,000	0	-
Aromatic (EC5-EC7)	<0.1	70	0	-
Aromatic (EC7-EC8)	<0.1	130	0	-
Aromatic (EC8-EC10)	<0.1 – 2.0	34	0	-
Aromatic (EC10-EC12)	<0.2 – 150	74	1	Cell 1 (SS3)
Aromatic (EC12-EC16)	<4 – 532	140	1	Cell 1 (SS3)
Aromatic (EC16-EC21)	<7 – 612	260	1	Cell 1 (SS3)
Aromatic (EC21-EC35)	<7 – 306	1,100	0	-
MTBE	<5 – 7	49,000 ug/mg	0	-
Benzene	<5	330 ug/mg	0	-
Toluene	16 – 420	610,000 ug/kg	0	-
Ethylbenzene	11 – 1128	350,000 ug/kg	0	-
Total Xylene	63 – 433	240,000 ug/kg	0	-

Total Petroleum Hydrocarbons (TPH CWG)

As discussed in the SGP report, a single elevation of Aliphatic (EC10-EC12) was recorded in one of the three samples screened (SS3) based on the residential development of site and a dilution of less than 10 would have been required to achieve the calibration range. In addition, minor elevated concentrations of Aromatics (EC10-EC12, EC12-EC16 and EC16-EC21) have been recorded in Cell 1 (SS3) at levels of between 1 and 10x the screening value.

BTEX

Three verification samples were screened for BTEX testing. No elevated concentrations of BTEX have been recorded above residential screening values in any of the three samples screened.

Summary of Risk to Phase 2A

As only minor elevations of hydrocarbons were recorded, the risk to human health is not significant and a significant vapour risk does not exist. A clean cover system is to be installed at the plots near HS13 as part of a site wide remedial requirement. This will suitably break any linkage present with the minor elevated hydrocarbons. A vapour risk is not considered to be present at HS13 however a passive ventilation system is to be installed as part of site wide CS2/Amber 1 precautions and a vapour resistant membrane is to be installed in Phase 2A. This will mitigate the pathway from vapours to indoor spaces.

The specific remedial measures to mitigate the risk to site end users in Phase 2A are discussed in Section 7.0.

4.3 Hotspot 9 (HS9)

Hotspot 9 situates within the southern extent of Phase 2A near the former boiler house and comprises Underground Storage Tanks (USTs) infilled with concrete.

The remediation earthworks at HS9 were undertaken by Urban Regen in October 2022 and comprised the removal of the storage tanks and associated concrete cradle/base as outlined in the Remedial Specification.



Photograph 37 – Breaking out concrete substructure surrounding tanks



Photograph 38 – Excavation of substructure/MG soils at tanks

Anecdotal evidence indicated that the USTs have previously been infilled with concrete upon decommissioning of Tetrosyl works, this was confirmed when removing.



Photograph 39 – Removal of substructure at tanks



Photograph 40 – Made Ground soils following removal of tank



Photograph 41 – HS9 UST



Photograph 42 – HS9 UST

The excavation was approximately 4m wide and 5m long and progressed to a depth of 4m bgl. The material comprised sandy gravel predominantly of brick and concrete underlain by reworked clay and sandstone bedrock at the base of the excavation.

A watching brief was undertaken by Urban Regen for visual or olfactory evidence of contamination. No product was observed within the tank and no evidence of visual contamination was noted during the excavation.

Olfactory evidence of contamination was noted within the granular Made Ground positioned above the tanks, considered to be associated with poor housekeeping when infilling the tanks. Approximately 10 tonnes of unsuitable material localised to the tanks was removed and stockpiled in the southern area of Phase 2 in the visqueen bunded area.

Following the completion of the excavations, clean site won material from Phase 1 was used as backfill material which will act as a capping layer from contaminated soils. In addition, a clean cover system is to be installed beneath finished floor levels which will be sufficient to mitigate the risk to site end users.

A passive sub floor ventilation is to be installed in the entirety of Phase 2A as part of site wide CS₂ gas precaution measures which will mitigate the accumulation of vapours into indoor spaces. Furthermore, a vapour resistant membrane is to be installed in all plots located within Phase 2A which will further mitigate the migration of vapours to indoor spaces.

The specific remedial measures to mitigate the risk to site end users in Phase 2A are discussed in Section 7.0.

5.0 GROUND GAS & VAPOUR

5.1 Introduction

Volatile Organic Compound and Ground Gas monitoring has been carried out across several phases of investigation dating back to March 2020. Previous reporting into ground gas & vapour in Phase 2A have included:

- *E3P Limited Ref: 10-110-R1 "Phase I and Phase II Geo-Environmental Site Investigation Bevis Green Works (Tetrosyl)." (Dated: May 2014).*
- *Smith Grant LLP Ref: R2174-R02-v2 "Supplementary Site Investigation." (Dated: June 2022).*
- *Smith Grant LLP Ref: R2174-R01-v2 "Outline Remedial Strategy." (Dated: May 2019).*
- *Smith Grant LLP Ref: R2174-R11-v4 "Detailed Remediation Strategy." (Dated: September 2022).*

The E3P report specifically refers to the gas and VOC monitoring at the northern end of Phase 2 near the position of the solvent tank farm. The report recorded elevated levels of carbon dioxide and methane and indicated the general requirement for gas and vapour remediation to determine the requirement for provision of gas protection in new buildings.

As discussed in the previous sections, works have been undertaken by Smith Grant & Urban Regen to remove the primary and secondary sources of contamination sources in Phase 2A.

Further investigation and assessment of gas and VOC vapour risks to built development and future residents was recommended by Smith Grant to classify the permanent ground gas risk and vapour risk, and satisfy the requirements of Bury council that the appropriate construction-stage mitigation (gas protection measures) could adequately manage residual risks.

Groundtech Consulting have undertaken supplementary ground gas and VOC monitoring in Phase 2A and have produced two reports, listed below:

- *Permanent Ground Gas & VOC Vapour Risk Assessment, Ref: GRO-21459-3784_1.1, dated 25 August 2022.*
- *Permanent Ground Gas & VOC Vapour Risk Assessment (Plots 139 to 142), Ref: GRO-21459-4060, dated 15 December 2022.*

5.2 Gas & Vapour Assessment

Groundtech Consulting visited site in March 2023 to install fourteen gas & VOC monitoring wells in the northern end of Phase 2 with seven being installed in Phase 2A. A supplementary visit was carried out on October 2022 to install additional VOC monitoring wells in Phase 2A to target the remaining plots.

Ground Model

Reworked Made Ground was encountered in WS501 to WS508 & WS514, WS515 & WS516A to depths of between 0.85m and 2.95m bgl and was generally granular with minor constituents of brick and concrete. The Made Ground is considered to be mostly backfill from the hotspot excavations and Phase 1 earthworks.

The natural ground comprised stiff brown mottled grey sandy gravelly clay with minor constituents of mudstone, chert and sandstone to depths of between 0.4m and 0.7m bgl.

Extremely weak brown Sandstone bedrock, residually weathered, recovered as slightly sandy cobbly gravel was typically below the Made Ground to a maximum depth of 3.0m bgl.

Groundwater was not encountered during the investigation.

Visual evidence of contamination in the form of ash was observed locally within the boreholes.

Scope

Seven monitoring standpipes were installed in the centre and northern area of Phase 2A to depths of between 1.7m bgl and 3.0m bgl, four additional wells were installed in the southern area of Phase 2A at depths of between 1.1m and 2.5m bgl.

The exploratory hole plan is presented in *GRO-21459-P08*.

Ground Gas

The ground gas risk assessment confirmed the site wide precautions of Amber 1 was suitable for the proposed development. Detectable levels of methane of up to 27.1%v/v were recorded in addition to carbon dioxide concentrations of up to 8.4%v/v. The ground gas results are presented in *Appendix 4*.

The northern plots in Phase 2A (Plots 58 to 79) site also fall within CS3 in accordance with current guidance and therefore, 4.5 points of protection were required for the proposed development and gas protection measures are deemed necessary. The southern plots in Phase 2A (Plots 139 to 142) fall within CS2 and 3.5 points of safety are required.

The required points can be achieved using a combination of the following methods:

- *Cast in situ monolithic reinforced ground bearing raft or reinforced cast in situ suspended floor slab with minimal penetrations - 1 or 1.5 points.*
- *Clear void (Excellent performance) - 2.5 points.*
- *Membrane - 2 points.*

CIRIA C665 details the following for residential buildings that fall into CS3:

- a. Reinforced concrete cast in situ floor slab (suspended, non suspended or raft) with propriety gas resistant membrane and passively vented underfloor sub-space.
- b. Beam and block or pre-cast concrete and propriety gas resistant membrane and passively vented underfloor sub-space.
- c. All joints and penetrations sealed.

The above gas precautions are required for all plots in Phase 2A.

Vapour Monitoring

During the installation of the groundwater monitoring wells, PID readings were undertaken and a maximum PID value of 422ppm was recorded within the monitoring wells that situate within Phase 2A (WS501 to WS507 & WS514 to WS517). During the monitoring, a PID value of 138.2ppm was recorded in WS507 which is in the position of HS10 fuel storage area.

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on Ground Investigation. All monitoring wells located in Phase 2A (WS501 to WS507 & WS514 to WS517) were scheduled for VOC bulk gas testing in accordance with current guidance. The results are presented in Appendix 5 and summary of the testing results is provided below:

Contaminant	Range (ug/m ³)	Inhalation HCV (ug/kg.bw.day ¹)	Assessment Criteria	Exceedances	Locations
<i>Benzene</i>	25.6 – 2,528.8	1.4 (S4UL)	5	13	WS501 – WS513
<i>Toluene</i>	20 – 278,350.5	1,400 (S4UL)	2,116	5	WS508, WS509, WS510, WS511 & WS513
<i>Ethylbenzene</i>	12.6 – 9929.2	74.3 (S4UL)	112	7	WS505, WS507, WS508, WS509, WS510, WS511 & WS513
<i>m/p-Xylene</i>	31.3 – 38,936.7	60 (S4UL)	91	9	WS502, WS503, WS505, WS507, WS508, WS509, WS510, WS511 & WS513
<i>o-Xylene</i>	11.7 – 6,316.6	60 (S4UL)	91	5	WS508, WS509, WS510, WS511 & WS513
<i>Aliphatic (C4-C6)</i>	36 – 9,711,162	5,000 (S4UL)	7,557	7	WS503, WS504, WS506, WS508, WS509, WS510 & WS511
<i>Aliphatic (C6-C8)</i>	352 – 46138927	5,000 (S4UL)	7,557	9	WS503, WS504, WS505, WS507, WS508, WS509, WS510, WS511 & WS513
<i>Aliphatic (C8-C10)</i>	<53 – 870,240	290 (S4UL)	438	10	WS502, WS503, WS504, WS505, WS506, WS507, WS508, WS509, WS510, WS511 & WS513
<i>Aliphatic (C10-C12)</i>	<65 – 20,508	290 (S4UL)	438	11	WS502, WS503, WS504, WS505, WS506, WS507,

					WS508, WS509, WS510, WS511 & WS513
Aromatic (EC8- EC10)	211 – 1,343,396	60 (S4UL)	91	13	WS501 – WS513
Aromatic (EC10 – EC12)	<53 – 13,632	60 (S4UL)	91	10	WS503, WS504, WS505, WS506, WS507, WS508, WS509, WS510, WS511 & WS513.
Chloromethane	3.7 – 24.8	5.14 (CL:AIRE GAC)	7.77	8	WS503, WS505, WS506, WS507, WS508, WS509, WS510 & WS512
1, 1- Dichloroethane	<6.1 – 209.3	200 (CL:AIRE GAC)	132.33	1	WS510
1,2 - Dichloroethane	<6.1 – 91.9	0.12 (S4UL)	0.181	3	WS508, WS509 & WS510
Chloroform	<7.3	40 (S4UL)	26.47	0	-
Trichloroethene (TCE)	<8.1 – 1032.4	0.57 (S4UL)	0.86	9	WS501 – WS505, WS508, WS510 – WS513
Tetrachloroethe ne (PCE)	<10.2 – 190.6	71	107.3 (S4UL)	1	WS510
1, 1, 1 - Trichloroethane	<8.2 – 790.7	600	906.8 (S4UL)	0	-
Naphthalene	<1.7 – 8.5	0.86	1.3 (S4UL)	5	WS507, WS508, WS509, WS510 & WS511
Chlorobenzene	<6.9 – 34.1	8.1	12.2 (S4UL)	1	WS09
1, 2 - Dichlorobenzene	<9.0	0.043	0.065 (S4UL)	0	-
1, 4 - Dichlorobenzene	<9.0	0.12	0.181 (S4UL)	0	-
1, 2, 3 - Trichlorobenzen e	<11.1	0.001	0.002 (S4UL)	0	-
1, 2, 4 - Trichlorobenzen e	<11.1 – 28.9	0.0023	0.003 (S4UL)	1	WS501

Northern Area

Elevated concentrations of VOCs, TPH and BTEX were detected in all of the eleven samples screened. The elevated concentrations were considered to be a direct result of the residual impact in bedrock soils following the removal of contaminated soils from HS10 & HS13. As discussed in section 6.0, the groundwater impacts have been classified as being stable to HS11 and the significantly impacted areas are outside of Phase 2A.

However, there is possibility that the groundwater from Phase 2B has had an impact on the vapour concentrations in Phase 2A.

It should be noted that the groundwater treatment at Phase 2B is underway and the vapour concentrations will be at a lower concentration upon treatment of the impacted groundwater of Phase 2B.

Southern Area

The highest exceedances were recorded in the light phase hydrocarbon aromatics in the C8-C12 range, the greatest single elevation was recorded within WS516 in the form of CFC (Freon-12). The risk of freons to human health is low at low concentrations and therefore the maximum F-12 concentration of 33.78mg/kg is not present at a high enough concentration to be considered toxic.

Concentrations of VOCs have been recorded above laboratory detection limits within WS516 (TCE, 1,1-DCE and 1,1,1-TCE) & WS517 (TCE). The source is considered to be HS9 whereby CFCs were stored and used to make aerosols on the site. As mentioned in Section 4.2, HS9 has now been removed and the risk is considered to be lower however secondary sources (impacted bedrock) may still be present.

The groundwater plume is further away from this area of Phase 2A and due to significant attenuation is not likely to have as significant impact on VOC concentrations as in the northern area. However, the risk of the groundwater plume sourcing vapours in this area cannot be ruled out.

At present, the vapour concentrations recorded are significant however correctly installed vapour precautions will be suitable to mitigate the vapour risk and allow construction to commence.

Recommendations

The recommended vapour precautions provided include the installation of a regulatory approved vapour resistant membrane in all plots in Phase 2A.

A vapour membrane is a higher specification than a carbon dioxide/methane resistant membrane and will be sufficient to mitigate the identified risk from permanent ground gases. The specification of the membrane should be agreed with the Local Authority.

Validation of the vapour resistant membrane is required in accordance with current guidance and should be verified by an independent third party contractor.

6.0 GROUNDWATER

A Detailed Quantitative Risk Assessment (DRQA) has been carried out by Groundtech Consulting, referenced *GRO-21459-3710_1.2* and dated 25 November 2022.

Several phases of groundwater monitoring have been undertaken within the groundwater monitoring wells located in Phase 2A, dating back to August 2020. The groundwater monitoring wells in Phase 2A include WS310, WS212, WS317, RBH318, RBH317, RBH327, RBH328, RBH329, RBH323, RBH330, RBH322, RBH317R, RBH322R, RBH323R, RBH329 and RBH330.

The impacted groundwater is restricted to Phase 2B and is to be remediated to levels agreed with the Environment Agency. Currently, the only risk posed to Phase 2A is vapours, which is being mitigated by the gas and vapour precautions being installed and validated. Additionally, the reduction of the groundwater plume in the treatment area (Phase 2B) will provide betterment to Phase 2A.

Construction within Phase 2A will not prevent the proposed groundwater remediation in Phase 2B and development in Phase 2A will not be an obstruction to continuing the groundwater treatment and obtaining approval.

7.0 PHASE 2A REMEDIATION STRATEGY

The remedial requirements specific to Phase 2A are summarised below and discussed in more detail:

1. *Ground Gas*
2. *Vapour Precautions*
3. *Cover System*
4. *Groundwater*

1 - Ground Gas

The ground gas risk assessment discussed in Section 5.0 confirms the site wide precautions of Amber 1 assessed by SGP is suitable for the proposed development.

The majority of Phase 2A falls in CS3 in accordance with current guidance and 4.5 points of protection are required for the proposed development and gas protection measures are deemed necessary. The plots located in the southern area situate within CS2 and only 3.5 points of protection are required.

The installation of the appropriate gas precautions in proposed plots in Phase 2A will mitigate the risk from sources in Phase 2A and the wider site, and allow construction to be carried out.

2 - Vapour

A vapour risk has been identified in all plots located within Phase 2A as discussed in Section 5.0. The source is predominantly outside Phase 2A but also encroaches in to Phase 2A in the groundwater and bedrock. It has been recommended in the Remedial Strategy a vapour resistant membrane should be installed in all plots in Phase 2A to mitigate the risk from impacted bedrock soils and groundwater to indoor receptors.

The vapour resistant membrane has been specified in the SGP Remedial Strategy and is considered to be sufficient to mitigate the identified risk from permanent ground gases and can be used in conjunction with the other points of safety required. It is recommended in the Remedial Strategy that the installation of the vapour membrane is verified by an independent third party in accordance with CIRIA C735. Providing passive ventilation and isolating the building and the receptor is considered sufficient to allow development to progress in Phase 2A.

3 - Cover System

Remediation and verification has been undertaken by Smith Grant in Phase 2A, targeting the cells of HS10, HS11 and HS13 that situate in Phase 2A. In addition, remediation of HS9 was undertaken by Urban Regen at a later date.

Using criteria defined in the Remedial Strategy, during the excavation of the hotspots, contaminated soils were removed and stockpiled in a visqueen bunded area outside of Phase 2A. The criteria was specific to the removal of visual and olfactory sources of contamination and any soils with a PID greater than 50ppm. The excavations were backfilled with suitably clean site won material from Phase 1 earthworks in addition to 'proven clean' cohesive soils excavated during the hotspots dig. It was recommended the use of cohesive site won soils in the backfilling of the hotspot excavations will reduce the human health risk to from contaminated soils by effectively increasing the depth to cover system in garden areas.

Based on the site being developed residentially with plant uptake, elevated contaminants of concern were recorded within verification samples of the natural clay and bedrock from HS10, HS11 and HS13 at depths of between 1.5m and 3.0m bgl. The greatest concentrations were typically Aromatic (EC10-EC12) and Total

Xylene. The levels were typically recorded at 1 to 10 times the screening value with rare elevations of greater than 100 times screening value detected within HS10 and HS11.

The cover system is a build phase requirement for Phase 2A which is proposed site wide and should be placed in the front and rear residential gardens of the properties. The cover system should comprise a total of 600mm clean material (minimum 150mm topsoil) and a demarcation membrane. Any areas of soft landscaping outside of the residential gardens (verges, POS etc.) should have a 450mm clean material (minimum 150mm topsoil) cover system with a demarcation membrane. The elevated concentrations were present at a minimum depth of 1.5m bgl and were replaced with a clean cohesive site won soils. The concentrations are therefore considered to be at significant depth beneath final floor levels.

Testing of imported soils to be placed as part of the cover system should be undertaken to confirm they are suitable for use prior to import, testing of the material should also be undertaken on site to confirm the suitability. Depth validation of the installed cover system should be undertaken for both front and rear gardens at a frequency of every-one in every three plots. The findings of these verification exercises should be detailed in a cover system verification report produced by a suitably qualified engineer. The implementation of the cover system post construction will mitigate the risk in Phase 2A to an acceptable level and allow the development in this area to progress.

The requirements of the cover system has been determined based off the now withdrawn BRE 465 Guidance document and should be verified in accordance with YALPAG Verification Requirements for Cover Systems document.

4 - Groundwater

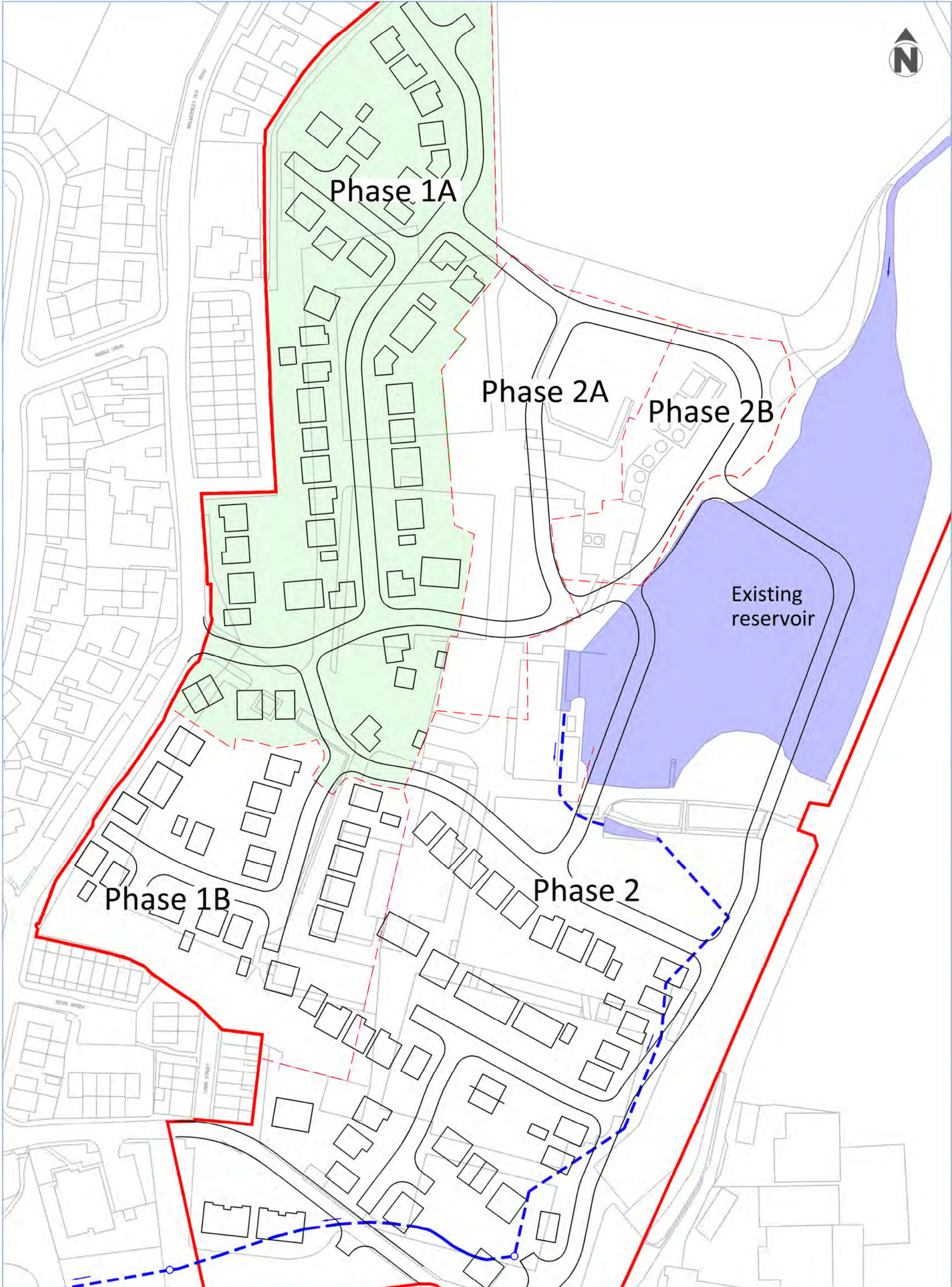
Elevated contaminants of concern have been recorded above the generated RTVs and specific remedial action is required with respect to groundwater. The groundwater plume is stable and predominantly located in Phase 2B.

A groundwater treatment programme is currently ongoing by Urban Regen within Phase 2B. The groundwater treatment programme currently involves the abstraction of shallow groundwater and any associated LNAPL via three boreholes (RBH401 to RBH403).

The pumping rates will continue to be adjusted so as to achieve a drawdown, sufficient to de-saturate the smear zone in the aquifer around and between each abstraction boreholes across HS11. The pumping rate is expected to temporarily reverse any down-gradient plume migration to Phase 2A.

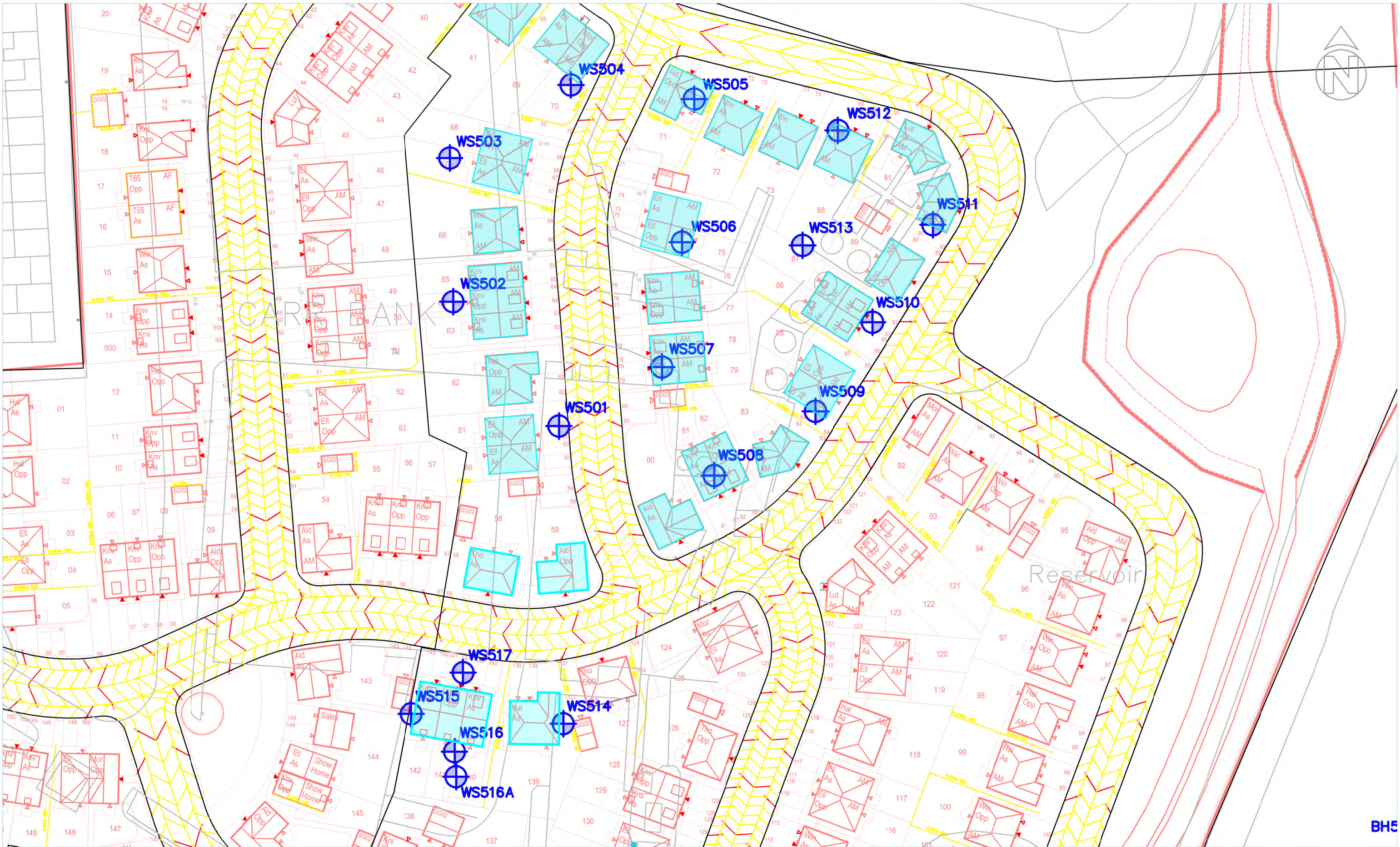
Engagement with the Environment Agency is ongoing and remediation of the impacted groundwater in Phase 2B will be undertaken to agreed RTVs. This process is longer term and is achievable concurrently with construction being undertaken in Phase 2A and other phases.

APPENDIX 1 - Plans



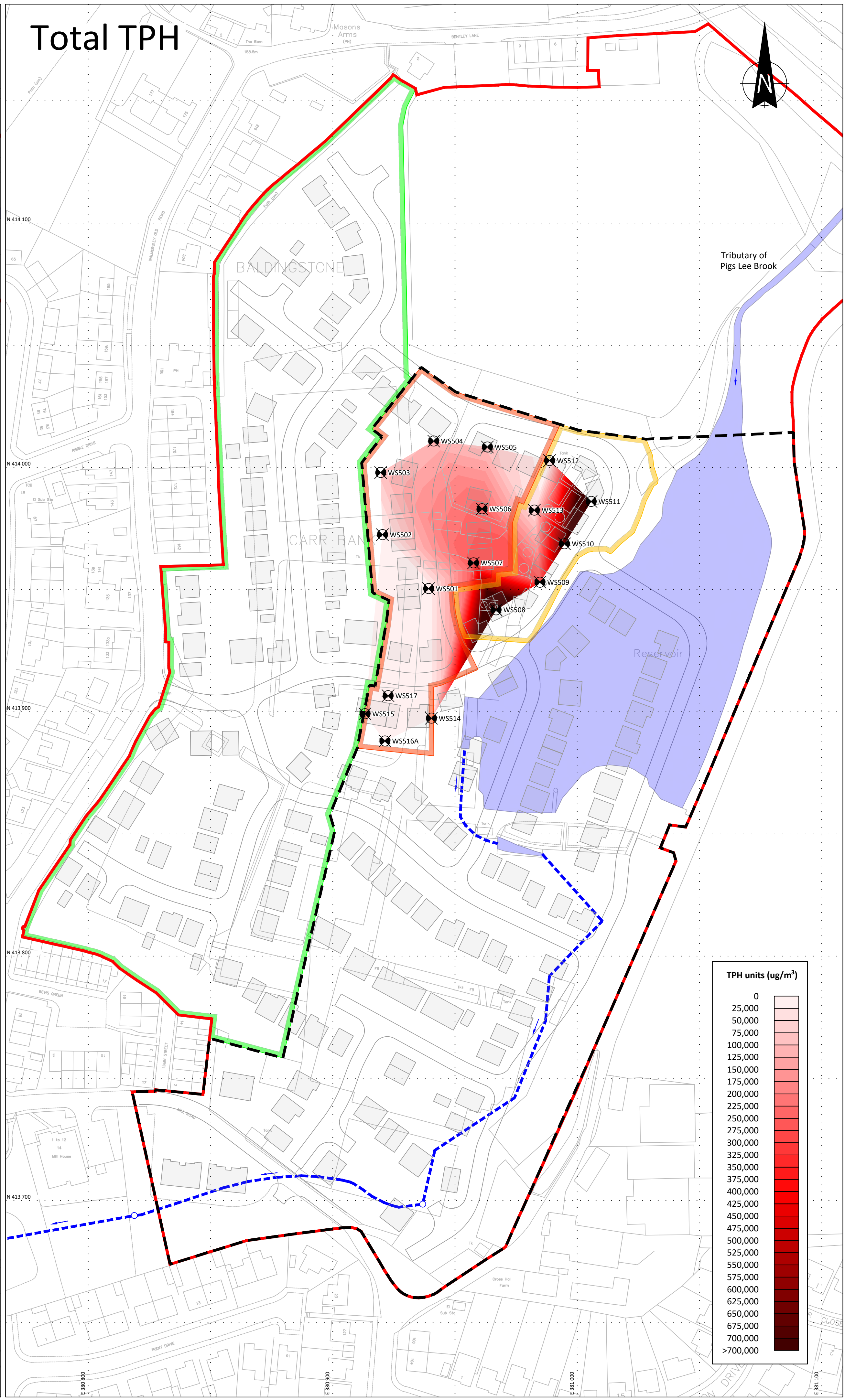
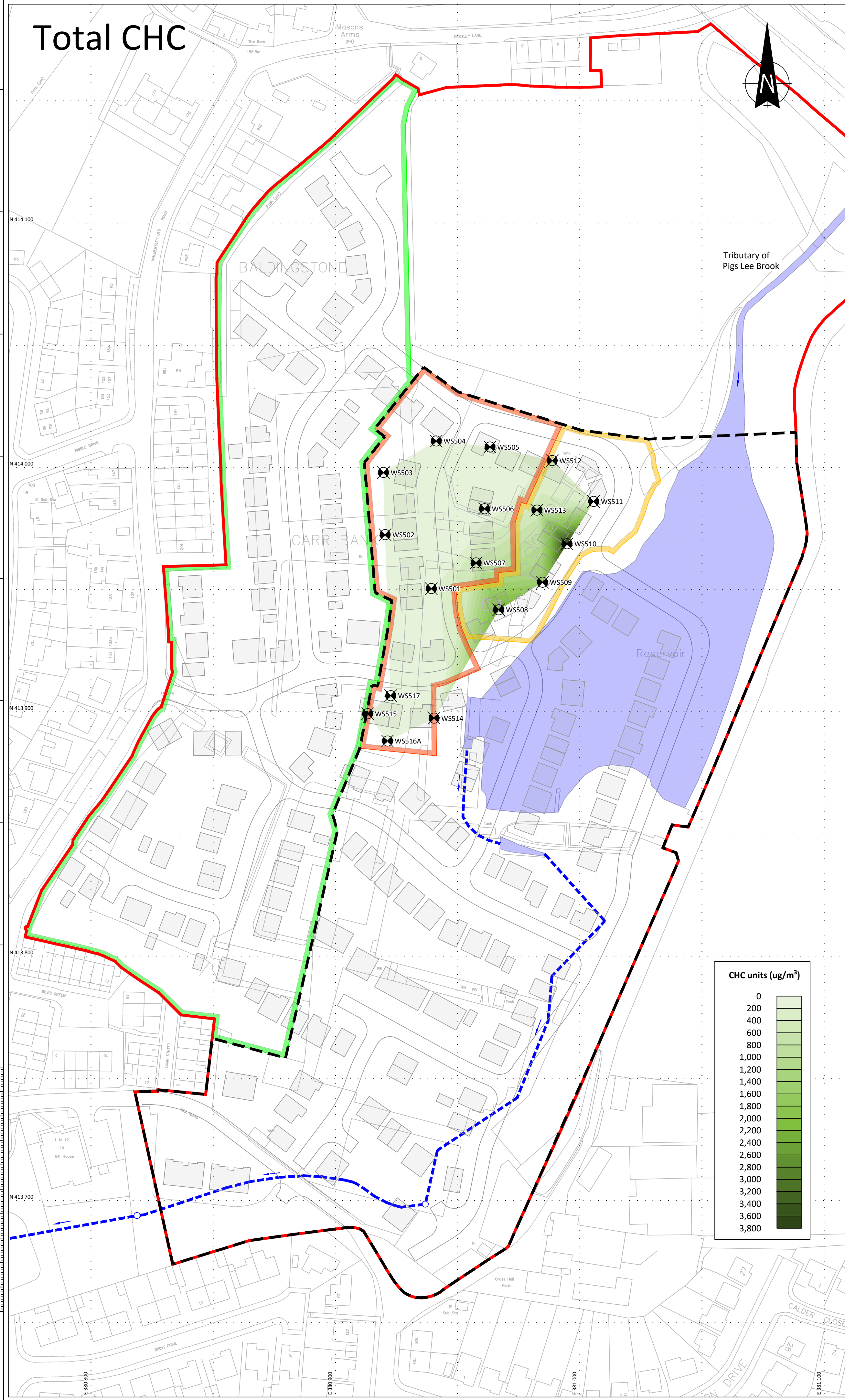
GROUNDTECH CONSULTING G	CLIENT	DATE				Status		Notes
	URBAN REGEN	NOVEMBER 2022				Preliminary		
	PROJECT TITLE	SCALE				Draft		
	YETROSYL BEVIS GREEN WORKS, BURY	A3				Issued	●	
	PLAN TITLE	PLAN NUMBER	1.1	Included Phase 2A & 2B	March 2023	For Comment		
	PHASE PLAN	GRO-21459-P02	Rev.	Details	Date	Approved		





GROUNDTECH CONSULTING 	CLIENT	DATE				Status		Notes  Approximate position of Gas Well  Plots requiring vapour resistant membrane 
	URBAN REGEN	DECEMBER 2022				Preliminary		
	PROJECT TITLE	SCALE				Draft		
	TETROSYL BEVIS GREEN WORKS, BURY	NTS				Issued		
	PLAN TITLE	PLAN NUMBER	1.1	Southern boreholes included	March 2023	For Comment		
GAS WELL LOCATION PLAN	GRO-21459-P13	Rev.	Details	Date	Approved			





Location Plan Scale 1:10,000

- Legend:
- Site boundary
 - Existing reservoir
 - Culverted water course
 - Direction of flow
 - Proposed residential layout (see Note 2)
 - Phase 1
 - Extent of Phase 2
 - Phase 2A
 - Phase 2B
 - Monitoring locations

- Notes
- The backcloth information within the site boundary details the historical building layout of the site.
 - The proposed development layout detailed on this drawing is extracted from Barratt drawing '256-ED-02 Engineering layout (Rev W)'. The VOC monitoring information detailed on this drawing has been extracted from Groundtech Consulting reports 'GRO-21459-3784 Permanent ground gas and VOC vapour risk assessment' dated Aug 2022, and 'GRO-21459-4060 Permanent ground gas and VOC vapour risk assessment (plots 139-142)' dated Dec 2022.

Survey Information:			
Co-ord System:	Co-ord Type:	Primary Survey Control:	Secondary Survey Control:
OSGB36(15)	Grid	Leica SmartNet	Site

Rev	Date	Amendment	Drawn	Checked

**Urban Regen**
ESTABLISHED 2001

Client:

Barratt Homes (Manchester)

Project:

Tetrosyl, Bury

Title:

VOC isopachytes
Phases 2A and 2B

Scale:	First Issue:	Drawn:	Checked:
1:1000 @ A1	27th Jan 2023	D.J.Woodrow	B.Thomas

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333-20-009

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APPENDIX 2 - SGP Remediation Earthworks Interim Completion Report (R2174C-R08-v1)

**FORMER TETROSYL WORKS,
BEVIS GREEN, BURY**

**REMEDIATION EARTHWORKS
INTERIM COMPLETION REPORT –
PHASE 2 NORTH (HS10, HS11 & HS13)**

For: Urban Regen Ltd.

May 2021

Report Ref: R2174C-R08-v1

DOCUMENT CONTROL SHEET

Report Title: Former Tetrosyl Works, Bevis Green, Bury
Interim Remediation Earthworks Completion Report – Phase 2
North (HS10, HS11 & HS13)

Client: Urban Regen Ltd

Report Reference Number: R2174C-R08

Report Status: Final

Version: V1

Report Date: May 2021

Signed for Smith Grant LLP

	Name	Position	Signature	Date
Author	C Salwa BSc, MSC FGS	Consultant		25.05.2021
Reviewer	B J Thomas BSc, MSc, CIWEM, C.Env 	Partner		25.05.2021

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Version	Report Status	Date	Details of Revision
v1	Final	25.05.2021	Final for issue

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- 2 Outline Remediation Strategy and Supplementary Site Investigation
- 3 Description of Works
- 4 Inspections and Testing
- 5 Conclusions
- 6 Recommendations

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- 456/ED/02 Engineering / Planning Layout
- 001 Remediation Cells and Verification Sample Locations (Base: Survey)
- 002 Residual Exceedances of Screening Criteria (Base: Layout)

Appendices

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- B Chemical Analysis Results
- C Calibration Certificates

1. Introduction

- 1.1. Urban Regen Ltd. (URL) was instructed by Barratt Homes Manchester (BH) to carry out remediation and preparatory earthworks in accordance with the approved Outline Remediation Strategy (report ref. R2174-R01-v2) to prepare a parcel of land off Mill Road, Bury, Greater Manchester for residential redevelopment with private gardens, associated infrastructure and public open space.
- 1.2. SGP has been instructed by URL to produce individual Completion Reports following phased completion of the earthworks. This report refers to the part of the Phase 2 area located in the north of the site as detailed on Drawing 001 & 002. For the avoidance of doubt, this report only refers to this specific part Phase 2 area only, referred to as HS10, HS11 & HS13, the extent of which is indicated on the attached Drawings. Site details are:

Table 1.1: Site Details

Address	Former Tetrosyl Works, Mill Road, Bury, BL9 6RE
National Grid Reference	380950, 413950
Local Authority	Bury Metropolitan Borough Council (BMBC)
Site Area	Total ~104,000m ² / development area ~72,000m ²
Previous Site Use	Office, warehouse, and packaging operations for chemical products used in vehicle maintenance
Planning Reference	63533
Proposed Use	Residential development with private gardens, associated infrastructure, and public open space.

Figure 1.1 Site Location



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- 1.3. Planning Permission for redevelopment of the site has been granted by BMBC (ref. 63533). The Planning Conditions relevant to land contamination issues are reproduced below:

Table 1.2: Planning Conditions relating to Contaminated Land

4	No development, other than site clearance, demolition, or works relating to site investigation remediation or ground works, shall commence unless and until: - • A contaminated land Preliminary Risk Assessment report to assess the actual/potential contamination and/or ground gas/landfill gas risks at the site shall be submitted to, and approved in writing by, the Local Planning Authority. • Where actual/potential contamination and/or ground gas/landfill gas risks have been identified, detailed site investigation and suitable risk assessment shall be submitted to and approved in writing by the Local Planning Authority. • Where remediation/protection measures is/are required, a detailed Remediation Strategy shall be submitted to, and approved in writing by, the Local Planning Authority.
5	Following the provisions of Condition 4 of this planning permission, where remediation is required, the approved Remediation Strategy must be carried out to the satisfaction of the Local Planning Authority within agreed timescales; and A Site Verification Report detailing the actions taken and conclusions at each stage of the remediation works, including substantiating evidence, shall be submitted to, and approved in writing by the Local Planning Authority prior to the development being brought into use.

- 1.4. An Outline Remediation Strategy (ORS) for the whole Tetrosyl development site, was prepared by SGP (ref: R2174-R01-v2; May 2019). The general provisions of the ORS were approved by both BMBC (ref: CL584.240719.1; July 2019) and the Environment Agency (EA) (February 2020) provided that further targeted site investigation and risk assessment was carried out to confirm risks from ground gas and vapours and to pollution of controlled waters, with subsequent Detailed Remediation Strategies (DRS), including revised Remediation Criteria produced if such risks were identified.
- 1.5. SGP has since produced a Phase 2 Supplementary Site Investigation (report ref: R2174C-R02-v1; June 2020) which included targeted soil sampling in the majority of potential hotspots within Phase 2. 3 of these areas, located in the north of the Phase were identified in the original site investigations and Remediation Strategy as containing potentially significant secondary soil sources:

HS10 – Solvent Filling Room and Above Ground Storage Tanks (AST);

HS11 – Main bulk solvent ASTs, solvent recovery plant;

HS13 – Waste Sludge Recovery Plant.

Figure 1.2: HS10 Areas during site operations (2017: before BH acquisition of site – ASTs were removed before BH gained vacant position, decommissioning and removal carried out by others.



Figure 1.3: HS11 Areas during site operations (2017: before BH acquisition of site – ASTs were removed before BH gained vacant position, decommissioning and removal carried out by others.



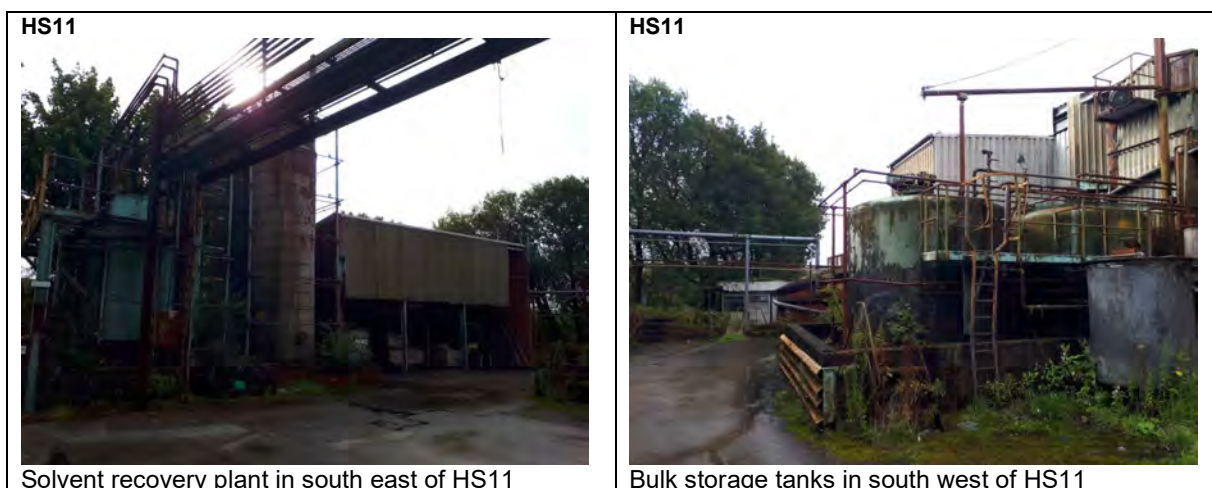


Figure 1.4: HS13 Areas during site operations (2017: before BH acquisition of site – ASTs were removed before BH gained vacant position, decommissioning and removal carried out by others.



- 1.6. The more recent SGP investigations tested the various soil media present for a comprehensive range of organic contaminants. Although low concentrations of some substituted compounds were detected, nearly all of the substances detected, and all those present at elevated concentrations, were aromatic or aliphatic hydrocarbons. The site investigation confirmed the presence of soil hydrocarbon contamination at the locations of suspected hotspots 'HS10', 'HS11' and "HS13" in Phase.
- 1.7. Based on the findings of the investigations, it was determined that that the provisions of the existing ORS could be utilised to reduce the secondary soil sources present in this area, but that groundwater and soil vapour / ground gas monitoring and Detailed Quantitative Risk Assessment (DQRA) would be required to fully determine residual risks once the soils are removed for treatment.

1.8. SGP carried out site inspections contemporaneously with the remediation earthworks and observed excavations to remove impacted soils from the three contamination hotspots area and collected verification samples from residual soils and from recovered materials in accordance with the Verification Plan.

1.9. This Completion / Verification Report contains the following information / records:

- details of completed remediation activities;
- a summary of SGP's inspection records and notes;
- validation data;
- conclusions as to the adequacy of the works completed, and;

2. Outline Remediation Strategy

2.1. Contamination Sources

- 2.1.1. The characterisation of potential contamination sources HS10, HS11 & HS 13 is discussed in detail in SGP report R2174-R06-V1, dated 28.04.2021, but are summarised below.

HS10 -High concentrations of hydrocarbons and low concentrations of other contaminants, PID readings >1,000ppm- significant source requiring removal secondary soil sources;

HS11 -High concentrations of hydrocarbons and low concentrations of other contaminants recorded high Toluene Ethylbenzene & Xylenes (TEX) including perched in groundwater samples, PID readings >1,000ppm- significant source requiring removal secondary soil sources;

HS13 -High concentrations of hydrocarbons but with a greater range of other substances present - significant source requiring removal secondary soil sources

2.2. Assessment of Ground Gas / VOC Risks

- 2.2.1. No gas or VOC vapour monitoring has been carried out in the area to date; this will be completed as part of future monitoring to confirm risks from ground gas & VOC vapours.

2.3. Assessment of Groundwater Pollution Risks

- 2.3.1. A groundwater monitoring and sampling programme has recently been complete in the area; this will be reported separately in conjunction with controlled water risk assessment.

2.4. Remediation Objectives

- 2.4.1. The remediation objectives and implementation plan for the preparatory-stage earthworks were designed to address any potential contamination that may persist on site and could present a risk to human health receptors and built development following redevelopment of the site to a residential use. Key remediation objectives were therefore:

- break significant or potentially significant future pollutant linkages resulting from the change of land use;
- remove / remediate significant pollution sources if identified during the works that pose a risk to man and/or the environment;
- respond appropriately to contingencies, in particularly the discovery of currently uncharacterised contamination;
- removal of obstructions, relict services and other deleterious materials identified during the preparatory works;
- recover materials with the potential for re-use within the development (i.e. aggregates);
- manage all emissions to controlled waters and the atmosphere (i.e. dust) during the remediation works to protect local residents, and;
- allow appropriate additional protection measures to be implemented during construction.

2.5. This report presents the factual data obtained during the implemented verification programme, concentrations are compared to the screening criteria set out in the ORS, however further assessment of the results will be carried out once the supplementary monitoring programmes and DQRA has been completed. The ORS screening criteria are set out below:

Table 6.1: Hydrocarbon screening criteria (residential use)

Contaminant	Tier 1 Assessment criteria (mg/kg unless stated)
Aliphatic C5-C6	42 (S4UL)
Aliphatic C6-C8	100 (S4UL)
Aliphatic C8-C10	27 (S4UL)
Aliphatic C10-C12	130 (S4UL)
Aliphatic C12-C16	1,100 (S4UL)
Aliphatic C16-C21	65,000 (S4UL)
Aliphatic C21-C35	65,000 (S4UL)
Aromatic C6-C7	70 (S4UL)
Aromatic C7-C8	130 (S4UL)
Aromatic C8-C10	34 (S4UL)
Aromatic C10-C12	74 (S4UL)
Aromatic C12-C16	140 (S4UL)
Aromatic C16-C21	260 (S4UL)
Aromatic C21-C35	1,100 (S4UL)

S4UL: LQM/CIEH Suitable for Use Levels (S4ULs), residential with homegrown produce land use, (at 1% SOM, 6% SOM for metals). Copyright Land Quality Management Ltd. Reproduced with permission publication number S4UL 3102. All rights reserved

2.6. Scope of Remediation Earthworks

2.6.1. Enabling works included:

- demolition of existing buildings following asbestos strip;
- establishment of security fencing, site offices and welfare facilities;
- vegetation clearance, and;
- removal of surface waste deposits.

2.6.2. Remediation earthworks included:

- removal of ground floor slabs, roads, relict foundations, and other sub-structures;
- excavation of made ground materials to allow inspection of ground conditions and facilitate the removal of obstructions, relict structures, and voids,
- excavation of impacted materials from the 'HS10', HS11 and HS13 hydrocarbon hotspots and removal of the arisings to an area within the wider development for either treatment or disposal;

- filling / regrading of the site to specified levels for foundation, road, and sewer construction, and to permit the subsequent formation of the agreed clean soil cover in private gardens by the developer.
- 2.7. The Strategy specified that an independent contaminated land consultant would attend site to inspect the works throughout the preparatory earthworks programme to allow inspection of the ground conditions, oversee excavation of the hydrocarbon hotspots, and to confirm the presence / absence of any previously unidentified contamination. It was also specified that records of the inspections and the results of all verification and validation testing be submitted to the Regulatory Authority within a Completion Report.

3. Description of Works

3.1. General Approach

- 3.1.1. The Phase 2 North preparatory and remediation earthworks were carried out over a 3-week period from the 03rd and the 18th of February 2021. A record of SGP's inspections of the works is provided in Section 4 with information provided by URL used to supplement SGP's observations of the works, as summarised below.
- 3.1.2. All ASTs and pipework had been removed before BH took vacant position of the site and URL mobilisation. Following the demolition works and removal of surface wastes and vegetation, relict surface slabs / hardstanding and foundations were broken out and excavated and the recovered materials were transferred to a feedstock stockpile in the wider Phase 2 area to the south.
- 3.1.3. Excavation and replacement of made ground soils then commenced in HS11. Made ground was excavated down to natural ground which was encountered at shallow depths (<2m) in all areas, comprising glacial till. Where significant contamination indicators were present within the natural strata, the excavation continued to the weathered upper surface of the underlying Rough Rock sandstone formation.
- 3.1.4. An area was excavated which could be accessed by the available plant (20-30t 360° tracked excavators, with an approximate 5m reach and PID readings and observations by the full time attending consultant determined whether the material appeared to be unacceptable contaminated.
- 3.1.5. Materials assessed as likely to be unacceptably contaminated by virtue of elevated PID readings (<50ppm) were removed to a quarantine area pending further assessment to determine treatment options and materials deemed to be clean overburden were initially placed in a temporary stockpile adjacent to the excavation. Once the maximum extent of the plant had been reached and verification samples collected from the base of the excavation, the clean overburden was replaced before the next excavation commenced in the adjacent ground.
- 3.1.6. This continued as long as time allowed, with the overlapping excavations forming a single "Cell" of the maximum size that could be completed in a working day, or of dimensions determined by the footprint of the hotspot area or the lateral extent of the contamination where this extended outside the footprint of the relevant feature. At this point the replaced materials were supplemented by clean fill from other parts of the site to approximate final formation levels and the cell deemed to have been completed.
- 3.1.7. The cell was given a unique reference number before another cell was then started in the ground immediately adjacent, again overlapping slightly to ensure all potentially contaminated soils were exposed for assessment and removal where appropriate. Some parts of HS10 and HS11 were remediated in this manner simultaneously and all three of the areas described were effectively

merged into a single large remediation excavation, although the individual hotspot names and cell numbers have been maintained to allow easy identification of verification sample location points. A drawing showing the location and extent of the remediation cells overlain onto the original site survey showing the various hotspot features is provided in Drawing 001.

- 3.1.8. The following aerial photographs were taken part way through the works on the 4th of February and show the approximate location of the remediation excavations relative to the Phase 1 boundary and other features.

Figure 3.1: Locations Hotspots 10, 11 (from south) & 13



Figure 3.1: Locations Hotspot 11 (from north)



- 3.1.9. The site was then regraded to development formation levels allowing for the provision of 600mm soil cover in future garden areas which is to be placed by the developer. Over nearly all of Phase 1, this involved a 'cut' into natural soils, and rockhead, although made ground was placed to some limited areas.

3.2. Materials Management

- 3.2.1. Waste materials removed from the area prior to the commencement of earthworks included scrap metal, wood, and general waste (plastics etc.). URL has provided a Waste & Disposal Log and records of the scrap metal removed offsite which will be provided in the Main Phase 2 completion reporting. Detailed documentation relating to the transfer of materials from the site is held by URL which is available upon request.

- 3.2.2. Processing of the hardstanding / masonry recovered during the preparatory earthworks from the area will be carried out when the other parts of Phase 2 are remediated, a total of approximately 200m³ of recycled aggregate recovered from Phase 1 was used as replacement fill materials or in temporary works to provide stable running surfaces throughout the area to enable access for plant. This material was part of the surplus generated in Phase 1 and the materials compliance testing was detailed in the Phase 1 Remediation Earthworks Completion Report.

- 3.2.3. A total of 1,800m³ material deemed to be potentially unacceptably contaminated was excavated and removed to a secure quarantine stockpile elsewhere in Phase 2. The material has been placed on a bunded, lined area on an intact relict slab. It is anticipated that further assessment of the soil concentrations will be carried out once site-specific remediation targets have been derived, and if appropriate a suitable soils treatment programme will be implemented to reduce concentrations to acceptable levels.

3.3. Unforeseen Contamination

- 3.3.1. No previously uncharacterised contamination was encountered during the works. Exposed made ground soils were consistent with the previous site characterisation, although a small amount of floating product was observed in groundwater ingress to an excavation of HS11. Assessment of groundwater conditions in the area following the completion of the works is scheduled and will be reported separately.

3.4. Constraints and Limitations

- 3.4.1. The only constraints to the remediation earthworks completed within the working area was the eastern boundary which extended into the slope down to the adjacent reservoir. In advance of the works a bund was formed along this area to preclude any runoff into the reservoir, excavations were only extended up to the toe of this bund. Excavations to the north were constrained by an ecology barrier demarking the protection zone associated with a badger sett. Excavation to the west and south could be continued without constraint, although an access road to the west of Cell 10 was left in-situ.

- 3.4.2. All excavations were continued down to competent sandstone; this was at relatively shallow depth, varying from 1.5m to 3.5m from contemporary ground levels. In most of the entries groundwater ingress only occurred at the base of the excavations coinciding with the sandstone. Exceptions to this were water ingress from an old clay pipe drain which ran from north to south close to the eastern extent of the area (which was stanked at the upgradient end and partially removed) and water perched within a number of brick structures in the west of HS10 (which were fully removed).

4. Inspections and Testing

4.1. Site Attendance and Testing

- 4.1.1. SGP attended site 11 times during the Phase 1 preparatory earthworks over a 3-week period (03.02.2021-18.02.2021). A photographic and written record of the works has been made and representative images are presented in Appendix A.
- 4.1.2. Where samples were collected for chemical analysis, appropriate containers were used, the samples were stored in a chilled cool box and were couriered to accredited laboratories (Element Material Technology, Deeside and Chemtest Ltd, Newmarket) within 48 hours of collection. SGP retains chain of custody documentation and laboratory analysis certificates are provided in Appendix B.
- 4.1.3. Photo-Ionisation Detectors (PIDs) were deployed to measure volatile organic carbon (VOC) concentrations within excavated soils by introducing the air inlet into fissures, holes or the headspace of containers. The instruments are calibrated against isobutylene which requires a tolerably small correction factor against most of the individual contaminants identified. Although applying these to a complex mixture of hydrocarbons is not possible it is solely used as a screening tool with sample analysis used to determine the actual soil concentrations. Calibration certificates for the equipment are provided in Appendix C.
- 4.1.4. A summary of the dates and records of inspections undertaken by SGP within the subject area is presented below:

Table 4.1 Summary of inspection records

Date	Description of works	SGP activities	Records
03.02.21	HS11-Cell 1 & HS10-Cell 1 completed, HS10-Cell 2 ceased due to fire hazard.	Observe, record and photograph excavations, screen for VOC vapours using PID, advise on status of residual soils, collect verification samples.	HS11-Cell 1 HS10-Cell 1 HS10-Cell 2 21/1453 21/1589
04.02.21	HS11-Cells 3, 4 & 5 completed		HS11-Cell 3 HS11-Cell 4 HS11-Cell 5 21/1589
05.02.21	HS11 Cells 5 & 6 Completed		HS11-Cell 5 HS11-Cell 6 21/1589
08.02.21	HS10 Cell 3 and HS11 Cells 7 & 8 completed		HS11-Cell 7 HS11-Cell 8 HS10-Cell 3 21/1773
09.02.21	HS10 Cell 4 and HS11 Cell 9 Completed		HS11-Cell 9 HS10-Cell 4 21/1772

Date	Description of works	SGP activities	Records
10.02.21	HS11-Cell 10 commenced, HS11Cell 11 commenced	Observe, record and photograph excavations, screen for VOC vapours using PID, advise on status of residual soils, collect verification samples.	HS11-Cell 10 HS11-Cell 11 21/1883
11.02.21	HS11-Cell 11 Completed		HS11-Cell 11 21/1883
15.02.21	HS10 Cell 5 commenced		HS10-Cell 5 21/2151
16.02.21	HS10-Cell 5 completed		HS10-Cell 5 21/2151
17.02.21	HS11-Cell 12 completed		HS11-Cell 12 21/2280
18.02.21	HS13-Cells 1-3 completed		HS13-Cell 1 HS13-Cell 2 HS13-Cell 3 21/2280

4.2. 'HS11' Hydrocarbon Hotspot Removal

4.2.1. SGP attended site on 03.02.2021-17.02.2021 to oversee and validate the removal of impacted soils associated with the 'HS11' hydrocarbon hotspot. The works involved the excavation and side-cast of soils exhibiting contamination indicators such as: hydrocarbon odours, staining and/or significantly elevated readings of volatile organic compounds (VOCs) above 50ppm when screened with a photoionization detector (PID), as per the requirements of the SGP Outline Remediation Strategy / E3P Remediation & Enabling Works Strategy.

4.2.2. Made ground conditions in HS11 were generally represented by a veneer of made ground of less than 1m comprising granular stone (sub-base to the former slabs and tank bases) with residual concrete slabs only present along the western access road. This was left in-situ until the final excavations (Cell12) to enable continued access.

4.2.3. In the extreme west of HS11 made ground comprising generally cohesive fill deepened to 2.5m and extended to competing rockhead within the historic quarry. In the extreme east of HS11 a linear backfilled trench containing a 300mm diameter clay pipe was associated with another local deepening of the cohesive fill. Elsewhere natural superficial cohesive Glacial Till boulder present at depth between 0.5-1.0m, extending to rockhead at 2.5m to 3.5m. The upper 0.5m of the Rough rock was generally heavily weathered and recovered as sand, gravel and cobbles of sandstone.

4.2.4. Moderate to strong hydrocarbon odours were sporadically encountered in the made ground and Till, however very strong hydrocarbon odours and PID readings in excess of 1,000ppm were more widely distributed in the upper weathered Rough Rock strata. Therefore, the excavations extended to the full depth of the made ground and superficial strata and included the weathered upper part of the Rough Rock formation to competent sandstone strata.

- 4.2.5. The total area of the excavation is irregularly shaped and extends to approximately 1,880m². Approximately 1,000 m³ of impacted soils removed and subsequently placed on an impermeable surface in the central part of Phase 2. The location of the 'HS11' hotspot area and the excavation extents and locations of the validation samples are shown on Drawing D01
- 4.2.6. Apart from local ingress of perched water from the eastern trench and drain, which were blocked off, water ingress did not occur above the top of the Rough Rock sandstone unit. Based on previous monitoring data this is considered to be 'true' groundwater rather than a perched water body. A thin sheen or occasional globules of product were noted in the central and central eastern Cells 4, 5, 6 & 7; however, a discreet layer of floating product was only noted in the central part of Cell 1. This was observed to be laterally limited, however a sample was obtained for analysis, reference HS11-Cell 1-P1.

Figure 4.1: 'HS11' Photograph showing localised product with groundwater ingress



- 4.2.7. A copy of the laboratory report (Element ref. 21/1453) is provided in Appendix B, indicating the material is predominantly (>76%) C6-C10 aromatic hydrocarbons with lower proportions of around 15% aliphatic hydrocarbons in the same range and around 10% mixed aliphatic and aromatic hydrocarbons in the C10-C12 range. Benzene was not detected with toluene and xylenes the dominant individual compounds positively identified. As with the source characterisation testing,

only traces of substituted hydrocarbons were present and interpretation of the chromatography confirm the substance is degraded gasoline.

4.2.8. 76 soil samples were collected by SGP from the sidewalls and base of the excavation which were submitted for banded hydrocarbon analysis. The results are compared to the screening criteria presented in Table 6.1 of the SGP Outline Remediation Strategy and are summarised in Table 4.2 below. Copies of the laboratory report certificates are provided in Appendix B.

Table 4.2 'HS11' Hydrocarbon Hotspot Removal Validation Samples Results

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Screening criteria (mg/kg unless stated) *	Exceedances: number & sample(s)
Aliphatic TPH >C5-C6	76	<0.1-10	42	None
Aliphatic TPH >C6-C8	76	<0.1-465	100	14 Cell 1-SS7, Cell 4-SS2, SS3 & SS4, Cell 5 SS3 & SS4, Cell 6 SS3 & SS4, Cell 7 SS2, Cell 9 SS2 & SS4, Cell 10 SS3 & SS7, Cell 11 SS4
Aliphatic TPH >C8-C10	76	<0.1-1719	27	21 Cell 1-SS7, Cell 4-SS2, SS3 & SS4, Cell 5 SS3 & SS4, Cell 6 SS3 & SS4, Cell 7 SS2, SS3, SS4 & SS5, Cell 8 SS3 & SS4, Cell 9 SS2 & SS4, Cell 10 SS3 & SS7, Cell 11 SS2, SS4 & SS12
Aliphatic TPH >C10-C12	76	<0.1-3105	130	18 Cell 1-SS7, Cell 4-SS2, SS3 & SS4, Cell 5 SS3 & SS4, SS3 & SS4, Cell 7 SS2, Cell 9 SS2, Cell 10 SS3, SS5 & SS7, Cell 11 SS2, SS3, SS4 & SS12
Aliphatic TPH >C12-C16	76	<4-821	1,100	None
Aliphatic TPH >C16-C21	76	<7-264	65,000	None
Aliphatic TPH >C21-C35	76	<7-1330	65,000	None
Aromatic TPH >C5-C7	76	<0.1-12	70	None
Aromatic TPH >C7-C8	76	<0.1-2120	130	14 Cell 1-SS7, Cell 4-SS2, SS3 & SS4, Cell 5 SS3 & SS4, Cell 6 SS3 & SS4, Cell 7 SS2 & SS4, Cell 9 SS4, Cell 10 SS3 & SS7, Cell 11 SS3
Aromatic TPH >C8-C10	76	<0.1-2625	34	22 Cell 1-SS7 & SS8, Cell 3 SS3, Cell 4-SS2, SS3 & SS4, Cell 5 SS3 & SS4, Cell 6 SS3 & SS4, Cell 7 SS2, SS3, SS4 & SS5, Cell 8 SS2, SS3 & SS4, Cell 9 SS2 & SS4, Cell 10 SS2 & SS7, Cell 11 SS4

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Screening criteria (mg/kg unless stated) *	Exceedances: number & sample(s)
Aromatic TPH >C10-C12	76	<0.1-534	74	20 Cell 1-SS7, Cell 4-SS2, SS3 & SS4, Cell 5 SS2, SS3 & SS4, Cell 6 SS4, Cell 7 SS2, SS3, SS4 & SS5, Cell 9 SS2 & SS4, Cell 10 SS3, SS5 & SS7, Cell 11 SS3 & SS12
Aromatic TPH >C12-C16	76	<0.4-147	140	None
Aromatic TPH >C16-C21	76	<7-205	260	None
Aromatic TPH >C21-C35	76	<7-594	1,100	None

4.2.9. It is noted that dilution of over 100x would have been required to achieve the calibration range for GRO (C5-C10) range in a number of samples. For the purposes of this assessment, the results that are outside the calibration range are considered to be true exceedances of the screening criteria, requiring further consideration in respect of both risks to controlled waters through migration to groundwater and human health through vapour inhalation.

4.2.10. A summary table of the results showing the exceedances is presented in Appendix B. A drawing showing the locations of the exceedances is presented in Drawing 002.

4.3. 'HS10' Hydrocarbon Hotspot Removal

4.3.1. SGP attended site on 03.02.2021-16.02.2021 to oversee and validate the removal of impacted soils associated with the 'HS10' hydrocarbon hotspot. The works involved the excavation and side-cast of soils exhibiting contamination indicators such as: hydrocarbon odours, staining and/or significantly elevated readings of volatile organic compounds (VOCs) above 50ppm when screened with a photoionization detector (PID), as per the requirements of the SGP Outline Remediation Strategy / E3P Remediation & Enabling Works Strategy.

4.3.2. Made ground conditions in HS1 were variable; in the eastern half of the area, a generally thin veneer of made ground (<1m) was present directly above natural cohesive superficial deposits of Glacial Till. In the western half, relict brick foundations and concrete beams were present creating a series of chambers of voids loosely backfilled with brick, concrete, stonemasonry with variable quantities of timber, slate, and scrap metal, probably representative of historical construction and demolition arisings, these deposits extended to variable depth of between 1.5 and 3.0m depth. Rockhead was encountered in all Cells below the made ground/Glacial Till at 2.5m to 3.5m. The upper 0.5m of the Rough rock was generally heavily weathered and recovered as sand, gravel and cobbles of sandstone.

4.3.3. Moderate to strong hydrocarbon odours were sporadically encountered in the made ground and clay, however very strong hydrocarbon odours and PID readings in excess of 1,000ppm were more

- widely distributed in the upper weathered Rough Rock strata but confined to the northern parts of the area. Therefore, the excavations extended to the full depth of the made ground and superficial strata and included the weathered upper part of the Rough Rock formation to competent sandstone strata.
- 4.3.4. Whilst excavating the start of Cell 2 at the northern end of HS10, the machine bucket teeth scraping on the rough rock sandstone caused sparking which ignited vapour accumulated in the pore space of the loose excavated soils accumulated at the rear of the excavation. A series of small flames were visible for a period of several minutes before the fire was extinguished by placement of additional soils on top of the material. The lower explosive limit of white spirit in air is around 0.6% so the recorded PID readings of above 1,000 ppm in the excavated soils were of the same order of magnitude, and greater concentrations would be expected within undisturbed soil in source zones.
- 4.3.5. The area of the excavation is approximately rectangular shaped and extends to approximately 700m². Approximately 600 m³ of impacted soils removed and subsequently placed on an impermeable surface in the central part of Phase 2. The location of the 'HS10' hotspot area and the excavation extents and locations of the validation samples are shown on Drawing D01.
- 4.3.6. Perched water was present within the granular fill materials encountered in the west of the HS10 area and within a number of pipes and drains which initially flooded excavations with a dark silty water, occasionally exhibiting a hydrocarbon sheen. However, the water appeared contained within the relict foundation structures present and significant recharge did not occur. In the south of HS10 ingress or up flow occurred at depths below 2.5m in the natural strata at the top of the Rough Rock sandstone unit. Based on previous monitoring data this is considered to be 'true' groundwater rather than a perched water body; this water had no visible sheen or globules or layers of floating product.
- 4.3.7. 76 soil samples were collected by SGP from the sidewalls and base of the excavation which were submitted for banded hydrocarbon analysis. The results are compared to the screening criteria presented in Table 6.1 of the SGP Outline Remediation Strategy and are summarised in Table 4.2 below. Copies of the laboratory report certificates are provided in Appendix B.

Table 4.2 'HS10' Hydrocarbon Hotspot Removal Validation Samples Results

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Screening criteria (mg/kg unless stated) *	Exceedances: number & sample(s)
Aliphatic TPH >C5-C6	33	<0.1-33	42	None
Aliphatic TPH >C6-C8	33	<0.1-1067	100	11 Cell 3-SS3, Cell 4 -SS1, SS4, SS5, SS6, SS7, SS8 & SS9, Cell 5 -SS3,

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Screening criteria (mg/kg unless stated) *	Exceedances: number & sample(s)
				SS4 & SS5
Aliphatic TPH >C8-C10	33	<0.1-605	27	11 Cell 3-SS3, Cell 4-SS1, SS4, SS5, SS6, SS7, SS8 & SS9, Cell 5 SS3, SS4 & SS5
Aliphatic TPH >C10-C12	33	<0.2-2160	130	9 Cell 3-SS3, Cell 4- SS4, SS5, SS6, SS7 & SS8, Cell 5 SS1, SS2, SS3, SS4, SS5 & SS8
Aliphatic TPH >C12-C16	33	<4-925	1,100	None
Aliphatic TPH >C16-C21	33	<7-925	65,000	None
Aliphatic TPH >C21-C35	33	<7-481	65,000	None
Aromatic TPH >C5-C7	33	<0.1-1	70	None
Aromatic TPH >C7-C8	33	<0.1-902	130	8 Cell 3-SS3, Cell 4 -SS1, SS4, SS5, SS7 & SS8, Cell 5 -SS4 & SS5
Aromatic TPH >C8-C10	33	<0.1-1074	34	9 Cell 3-SS3, Cell 4 -SS1, SS4, SS5, SS7 & SS8, Cell 5 -SS3, SS4 & SS5
Aromatic TPH >C10-C12	33	<0.2-594	74	8 Cell 3-SS3, Cell 4- SS4, SS5, SS6, SS7 & SS8, Cell 5 SS2 & SS8
Aromatic TPH >C12-C16	33	<4-505	140	2 Cell 5 SS2 & SS8
Aromatic TPH >C16-C21	33	<7-1098	260	3 Cell 4-SS10, Cell 5 SS2 & SS8
Aromatic TPH >C21-C35	33	<7-1393	1,100	None

4.3.8. It is noted that dilution of over 100x would have been required to achieve the calibration range for GRO (C5-C10) range in a number of samples. For the purposes of this assessment, the results that are outside the calibration range are considered to be true exceedances of the screening criteria, requiring further consideration in respect of both risks to controlled waters through migration to groundwater and human health through vapour inhalation.

4.3.9. A summary table of the results showing the exceedances is presented in Appendix B. A drawing showing the locations of the exceedances is presented in Drawing 002.

4.4. 'HS13' Hydrocarbon Hotspot Removal

4.4.1. SGP attended site on 18.02.2021 oversee and validate the removal of impacted soils associated with the 'HS13' hydrocarbon hotspot. The works involved the excavation and side-cast of soils exhibiting contamination indicators such as: hydrocarbon odours, staining and/or significantly

- elevated readings of volatile organic compounds (VOCs) above 50ppm when screened with a photoionization detector (PID), as per the requirements of the SGP Outline Remediation Strategy / E3P Remediation & Enabling Works Strategy.
- 4.4.2. Made conditions in HS13 were generally represented by a veneer of made ground of less than 1.5m comprising granular stone (sub-base to the former concrete access ramp). Some visual indicators of contamination such as dark staining and mild chemical/hydrocarbon odours were present so the made ground was removed.
- 4.4.3. No hydrocarbon odours were recorded in the made ground and clay, and PID readings peaked at 20ppm. excavations extended to the full depth of the made ground and superficial strata and included the weathered upper part of the Rough Rock formation to competent sandstone strata.
- 4.4.4. The total area of the excavation is approximately square shaped and extends to approximately 180m². Approximately 200 m³ of impacted soils removed and subsequently placed on an impermeable surface in the central part of Phase 2. The location of the 'HS13' hotspot area and the excavation extents and locations of the validation samples are shown on Drawing D01.
- 4.4.5. Apart from local ingress of perched water from the former historical quarry to the north below depths of 2m no water ingress occurred.
- 4.4.6. 3 soil samples were collected by SGP from the sidewalls and base of the excavation which were submitted for banded hydrocarbon analysis. The results are compared to the screening criteria presented in Table 6.1 of the SGP Outline Remediation Strategy and are summarised in Table 4.2 below. Copies of the laboratory report certificates are provided in Appendix B.

Table 4.2 'HS13' Hydrocarbon Hotspot Removal Validation Samples Results

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Screening criteria (mg/kg unless stated) *	Exceedances: number & sample(s)
Aliphatic TPH >C5-C6	3	<0.1	42	None
Aliphatic TPH >C6-C8	3	<0.1-1	100	None
Aliphatic TPH >C8-C10	3	<0.1-2.2	27	None
Aliphatic TPH >C10-C12	3	<0.2-432.2	130	1 Cell 1-SS3
Aliphatic TPH >C12-C16	3	<4-972	1,100	None
Aliphatic TPH >C16-C21	3	<7-1032	65,000	None
Aliphatic TPH >C21-C35	3	<7-397	65,000	None
Aromatic TPH >C5-C7	3	<0.1	70	None
Aromatic TPH >C7-C8	3	<0.1	130	None
Aromatic TPH >C8-C10	3	<0.1-2	34	None
Aromatic TPH >C10-C12	3	<0.2-150	74	1 Cell 1-SS3

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Screening criteria (mg/kg unless stated) *	Exceedances: number & sample(s)
Aromatic TPH >C12-C16	3	<4-532	140	1 Cell 1-SS3
Aromatic TPH >C16-C21	3	<7—612	260	1 Cell 1-SS3
Aromatic TPH >C21-C35		<7-306	1,100	None

4.4.7. A summary table of the results showing the exceedances is presented in Appendix B. A drawing showing the locations of the exceedances is presented in Drawing 002.

5. Conclusions

- 5.1. URL has carried out the Phase 1 preparatory and remediation earthworks at the former Tetrosyl Works, Mill Road, Bury site and SGP has undertaken independent inspections and testing of materials in accordance with the approved Outline Remediation Strategy (ORS). This involved the removal of secondary soil contamination sources down to competent bedrock, the level of which broadly intersects with the local groundwater levels.
- 5.2. The ground conditions and types of soil contamination encountered were consistent with those described in the previous reporting and no revisions to the agreed Strategy have been required as a result of the inspections, investigations and assessments carried out contemporaneously with the remediation earthworks. While removal of the hydrocarbon impacted soils for HS10, HS11 & HS15 was deemed an appropriate remediation objective, further assessment of risks from ground gas & vapours, and to controlled waters via leaching to groundwater are required.
- 5.3. It is concluded that the preparatory remediation earthworks within the specific area under consideration have been completed in accordance with the ORS, but that remaining remediation and mitigation measures to manage residual risks will be determined by further investigation and risk assessment.

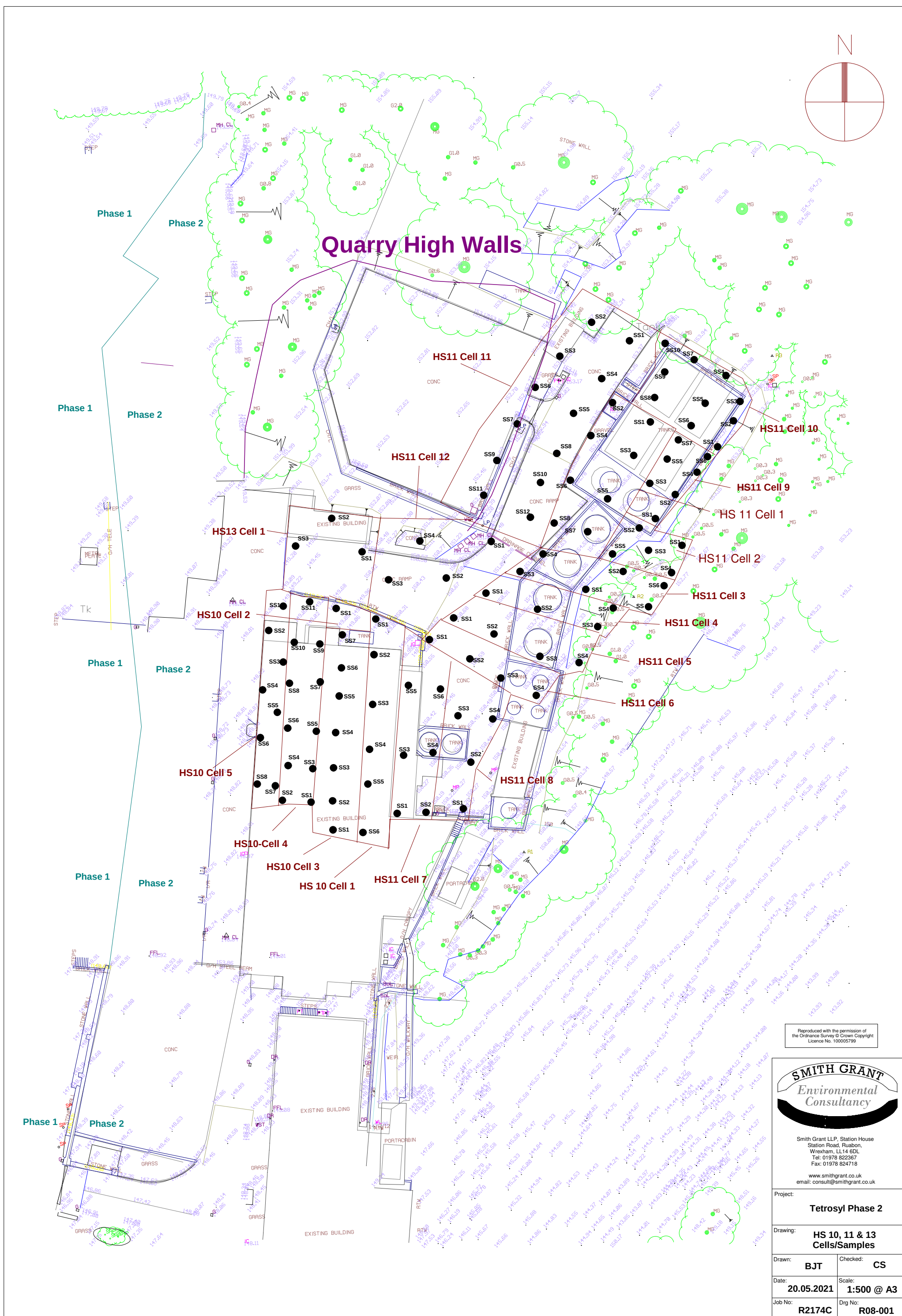
6. Recommendations

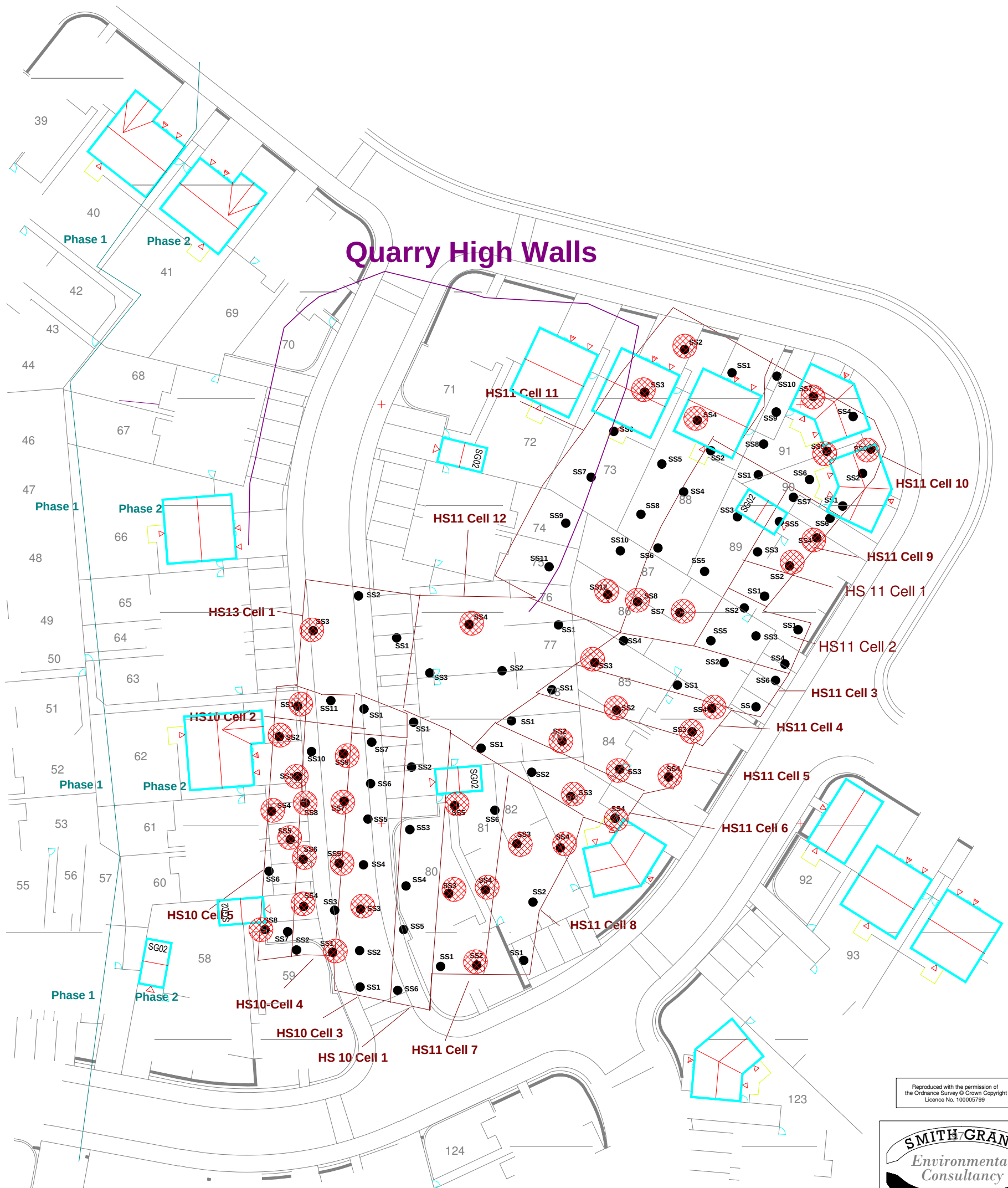
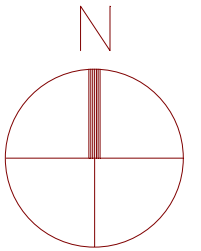
- 6.1. In accordance with the recommendations contained within the SGP Outline Remediation Strategy, the developer is required to place a soil cover system in all gardens / landscaped areas and install gas protection measures. Although further assessment of ground gas & vapour will be carried out, it can be anticipated that dedicated VOC vapour protection measures will be required throughout the area described in this report.
- 6.2. Further assessment of the significance of the residual concentrations of contaminants at the base of the excavations is required, in respect of the pollution of controlled waters, specifically the aquifer in the Rough Rock and downgradient receptors. A programme of groundwater monitoring and sampling is currently underway within the area, and downgradient of, HS10, HS11 & HS13, and the results will be used to inform a site-specific quantitative risk assessment and the generation of remediation criteria against which the significance of the residual concentrations noted in this report can be assessed.

Limitations

- 6.3. SGP reserves the right to alter any of the foregoing information in the event of new information being disclosed or provided and in the light of changes to legislation, guidelines, and responses by the statutory and regulatory authorities.
- 6.4. This report has been prepared by Smith Grant LLP, for the sole and exclusive use of Urban Regen Ltd and Barratt Homes Manchester, the benefit of this report may not be assigned to any third party without the prior agreement in writing of Smith Grant LLP.
- 6.5. Reasonable skill, care and diligence has been exercised within the timescale and budget available, and in accordance with the technical requirements of the brief. Notwithstanding the efforts made by the professional team in undertaking the assessment and preparing this report, it is possible that other ground conditions and contamination as yet undetected may exist. Reliance on the findings of this report must therefore be limited accordingly. Such reliance must be based on the whole report and not on extracts which may lead to incomplete or incorrect conclusions when taken out of context.

DRAWINGS





Residual Concentrations Exceed Tier 1 (Resideitnial Human Health) Screening Criteria

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Project:	
Tetrosyl Phase 2	
Drawing:	
HS 10, 11 & 13 Tier 1 Exceedances	
Drawn:	Checked:
BJT	CS
Date:	Scale:
20.05.2021	1:500 @ A3
Job No:	Drg No:
R2174C	R08-002

APPENDIX A

Remediation Excavation Records

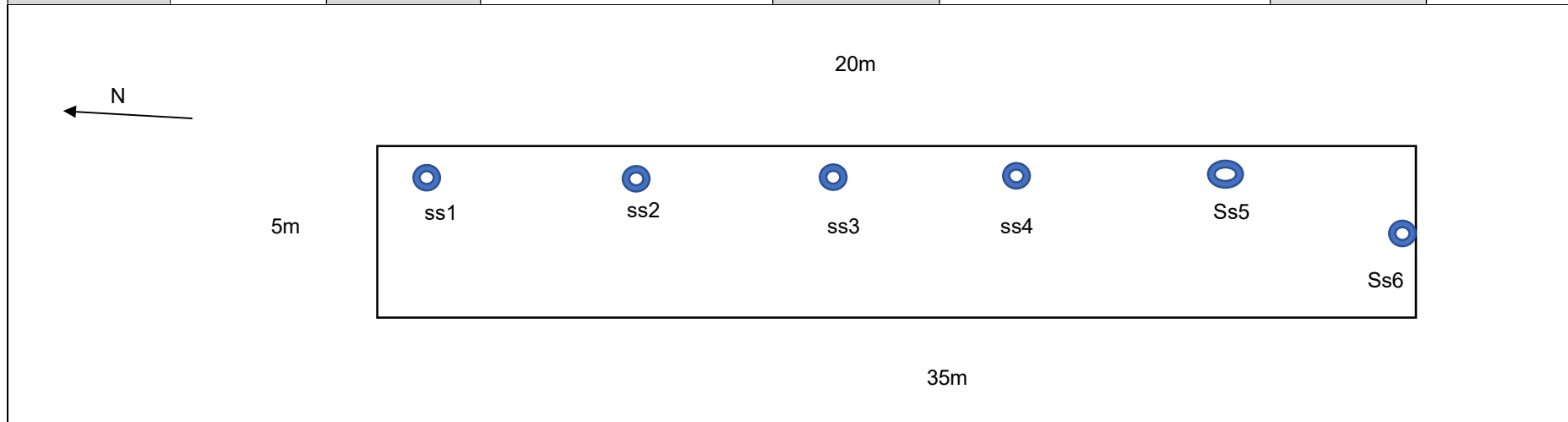
HS10 Cell 1

Job number	R2174c	Date	03.02.21	Cell No.	HS10 Cell 1	Compiled by	BJT
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 General view south over Cell during excavation	 Eastern boundary (with HS11) Cell excavated to competent rockhead in rough rock – ingress groundwater at rockhead – no product	 Sample location ss1 at base of excavation in north
	 Sample location ss2	No Photo

HS10 Cell 1

Approx. turnover volume:	175m ³	Depth made ground:	1-2.5m	Base of Cell Depth:	1.5m-2.5m	Source replacement Fill:	Replaced materials Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete. Thin weathered coal at rockhead in one location, rest weathered Rough Rock, becoming competent at 2.0-2.5m						
Groundwater:	Minor entry at rockhead	PID readings:	50ppm (North)— <1ppm (south)	Lab Samples:	HS10cell1ss1 HS10cell1ss2 HS10cell1ss3 HS10cell1ss4 HS10cell1ss5 HS10cell1ss6	Lab ref:	21/1589



HS10 Cell 2

Job number	R2174c	Date	03.02.21	Cell No.	HS10 Cell 2	Compiled by	BJT
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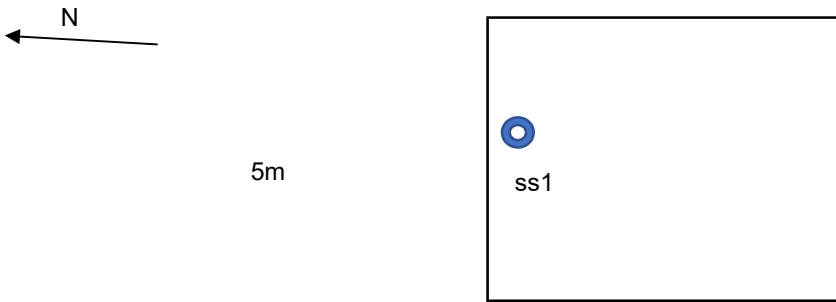


General view west over HS10-Cell 2 – excavation continued to competent Rough Rock Strata where ingress groundwater commenced



General view south over HS10-Cell 2- hydrocarbon sheen visible on groundwater ingress. Very strong white spirit / gasoline odour

HS10 Cell 2

Approx. turnover volume:	22m ³	Depth made ground:	2.0m	Base of Cell Depth:	2.0m	Source replacement Fill:	Replaced materials Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete. Strong odour and white spirit vapour temporarily ignited from sparking of machine bucket teeth on sandstone resulting in minor fire—excavation temporarily backfilled while further control measures put in place and working methods adopted						
Groundwater:	Minor entry at rockhead	PID readings:	1,000ppm	Lab Samples:	HS10cell2ss1	Lab ref:	21/1589
 The diagram shows a rectangular site plan. A blue circle with a dot in the center is labeled 'ss1'. To the left of the rectangle, there is a north arrow pointing left, labeled 'N', and a scale bar labeled '5m'.							

HS10 Cell 3

Job number	R2174c	Date	08.02.2021	Cell No.	HS10 Cell 3	Compiled by	BJT
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General view north over Cell



Commencement Excavation in south – temporary removal clean overburden



Cell excavated northwards



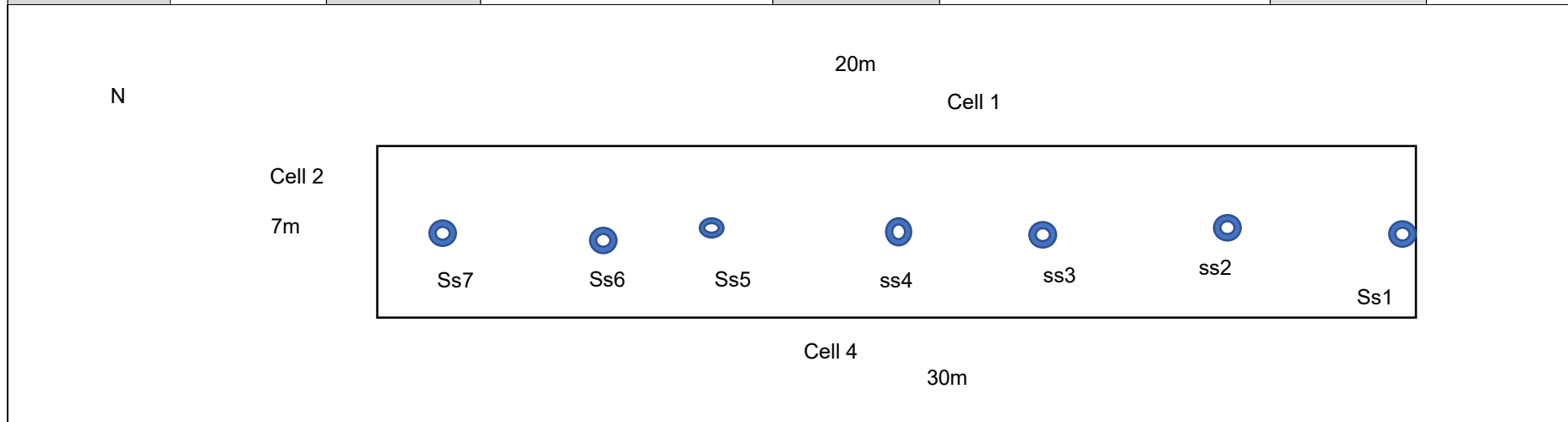
Weathered coal present at rockhead



Boundary between natural clay (excavated) and underlying Rough Rock (excavated to competent rockhead)

HS10 Cell 3

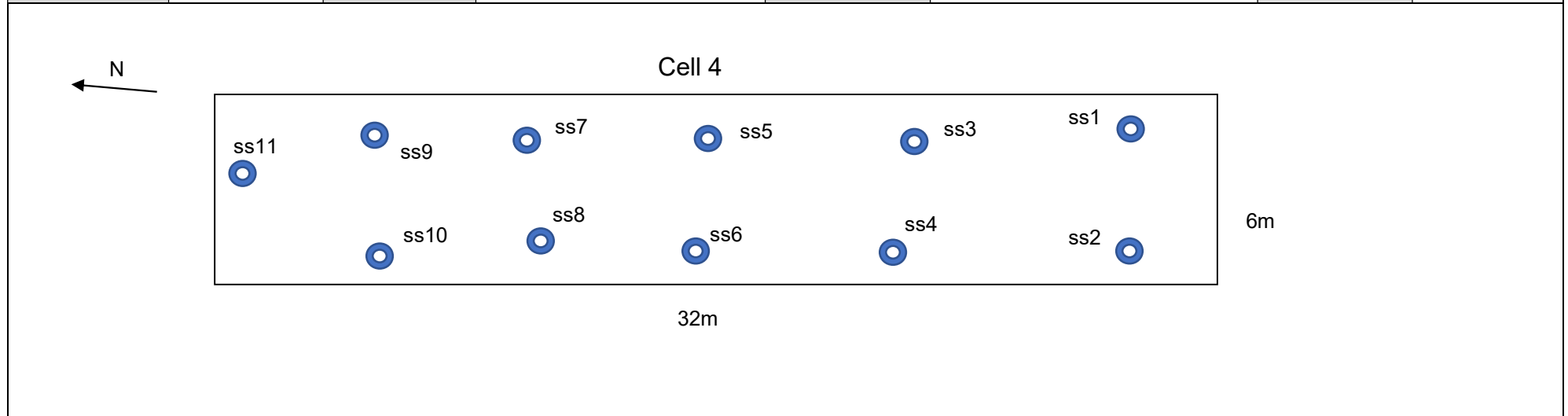
Approx. turnover volume:	175m ³	Depth made ground:	1-2.5m	Base of Cell Depth:	1.5m-2.5m	Source replacement Fill:	Replaced materials Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete. Thin weathered coal at rockhead in one location, rest weathered Rough Rock, becoming competent at 2.0-2.5m						
Groundwater:	None	PID readings:	150ppm (Centre / North)– <1ppm (south)	Lab Samples:	HS10cell3ss1 HS10cell3ss2 HS10cell3ss3 HS10cell3ss4 HS10cell3ss5 HS10cell3ss6 HS10cell3ss7	Lab ref:	21/1773



Job number	R2174c	Date	09.02.21	Cell No.	HS10 Cell 4	Compiled by	CS
 General view		 Sample location: ss4		 Sample location: ss5			
 Sample location: ss7		 Sample location: ss9		 Sample location: ss10			

HS10 Cell4

Approx. turnover volume:	528m ³	Depth made ground:	2.5m – 3mm	Base of Cell Depth:	3.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Blackish brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete. Slabs of concrete. Occasional pipes, wood, rags, iron scrap.						
Groundwater:	Perched groundwater within made ground rapid inflow at 1m – 1.1m (north)	PID readings:	10ppm – 160ppm	Lab Samples:	HS10cell4ss1 HS10cell4ss2 HS10cell4ss3 HS10cell4ss4 HS10cell4ss5 HS10cell4ss6 HS10cell4ss7 HS10cell4ss8 HS10cell4ss9 HS10cell4ss10 HS10cell4ss11	Lab ref:	21/1772b1V2



HS10 Cell5

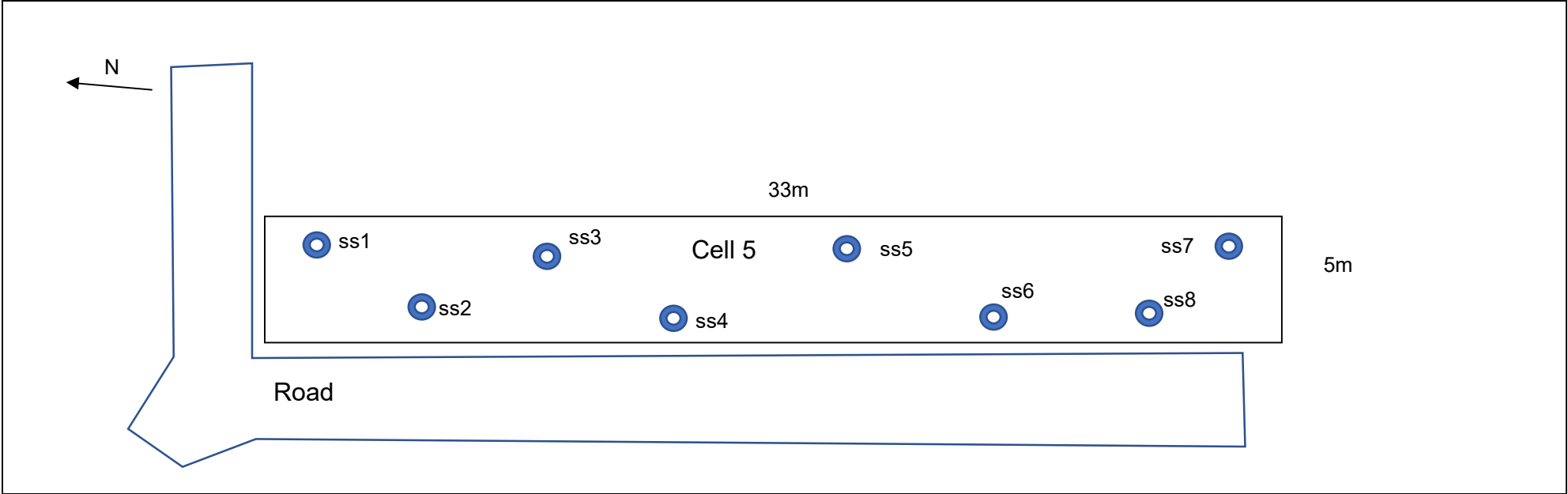
Job number	R2174c	Date	15.02.21 – 16.02.21	Cell No.	HS10 Cell 5	Compiled by	CS
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 General view to the north	 General view to the north	 General view to the south
 Relict foundations	 Sample location: ss1	 Sample location: ss2
 Sample location: ss3	 Sample location: ss4	 Sample location: ss5

HS10 Cell5

 Sample location: ss7	 Sample location: ss8	
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Approx. turnover volume:	413m ³	Depth made ground:	between 1.5m and 3.5mm	Base of Cell Depth:	2m -3.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Blackish brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete. Slabs of concrete. Occasional pipes, wood, rags, iron scrap.						
Groundwater:	Groundwater at between 2m and 2.5m to the south.	PID readings:	Higher readings to the north, 10—100ppm. Generally, < 20ppm to the south.	Lab Samples:	HS10cell5ss1 HS10cell5ss2 HS10cell5ss3 HS10cell5ss4 HS10cell5ss5 HS10cell5ss6 HS10cell5ss7 HS10cell5ss8	Lab ref:	21/2151b1



HS11 Cell1

Job number	R2174c	Date	03.02.21	Cell No.	HS11 Cell1	Compiled by	bjt
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Initial Trial Pits Excavated to locate start remediation excavation and establish depth



Excavation extended through granular made ground



Excavation extended to competent rough rock where contamination indicators present (mainly below clay in weathered rough rock)



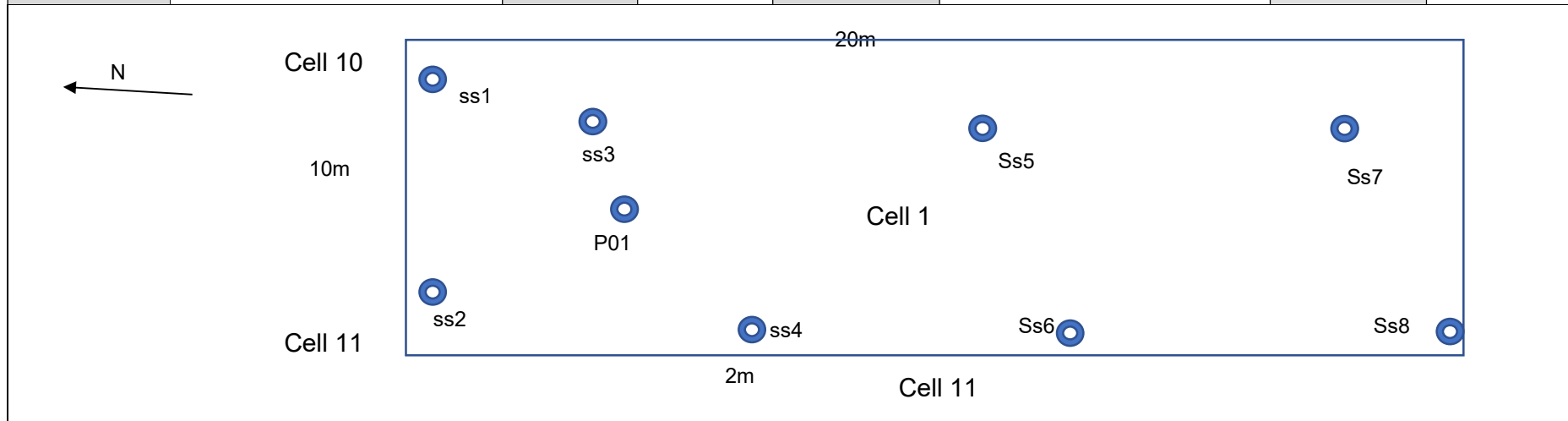
Thin free product (black) on top of groundwater ingress in centre of cell



Cell backfilled with clean overburden and recycled aggregate

HS11 Cell1

Approx. turnover volume:	250m ³	Depth made ground:	1.0m	Base of Cell Depth:	2.5m-3m	Source replacement Fill:	Site-won (clean overburden or aggregate)
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Blackish brown/grey slightly clayey to clayey sandy gravel. Moderate hydrocarbon odours becoming string at base of clay– small area of black product sleeping in middle of excavation						
Groundwater:	Groundwater inflow base where competent Rough Rock rockhead	PID readings:	5ppm - 1,000ppm	Lab Samples:	HS11cell1- P1 (PRODUCT) HS11cell1- SS1 HS11cell1- SS2 HS11cell1- SS3 HS11cell1- SS4 HS11cell1- SS5 HS11cell1- SS6 HS11cell1- SS7 HS11cell1- SS8	Lab ref:	21/1453



Job number	R2174c	Date	04.02.21	Cell No.	HS11 Cell 2	Compiled by	CS
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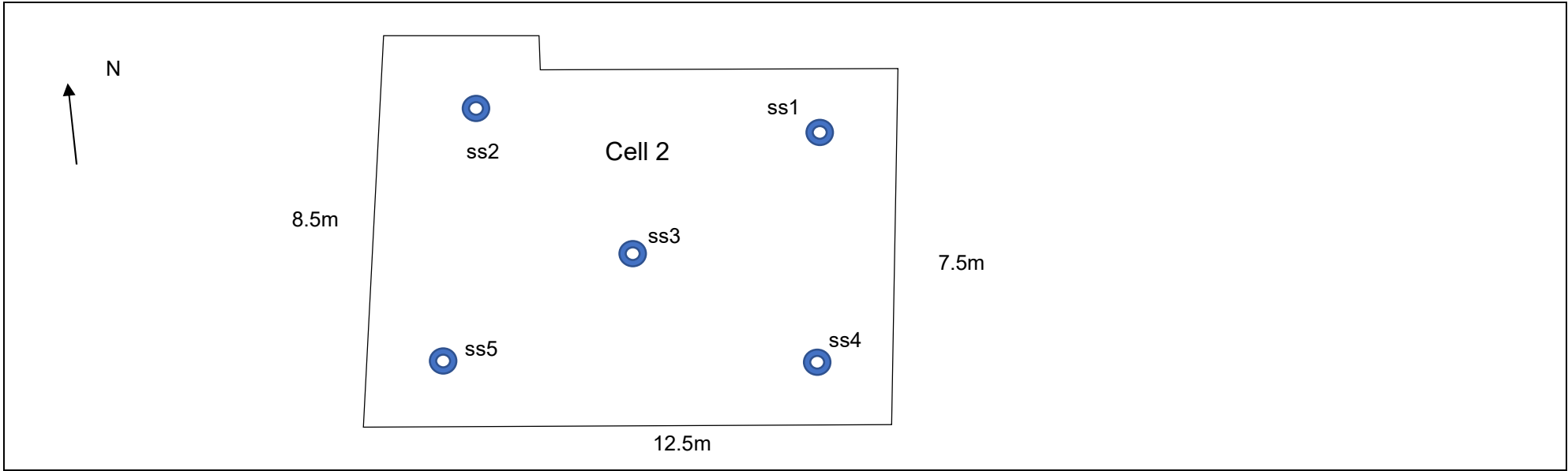


Sample location: ss4



Sample location: ss5

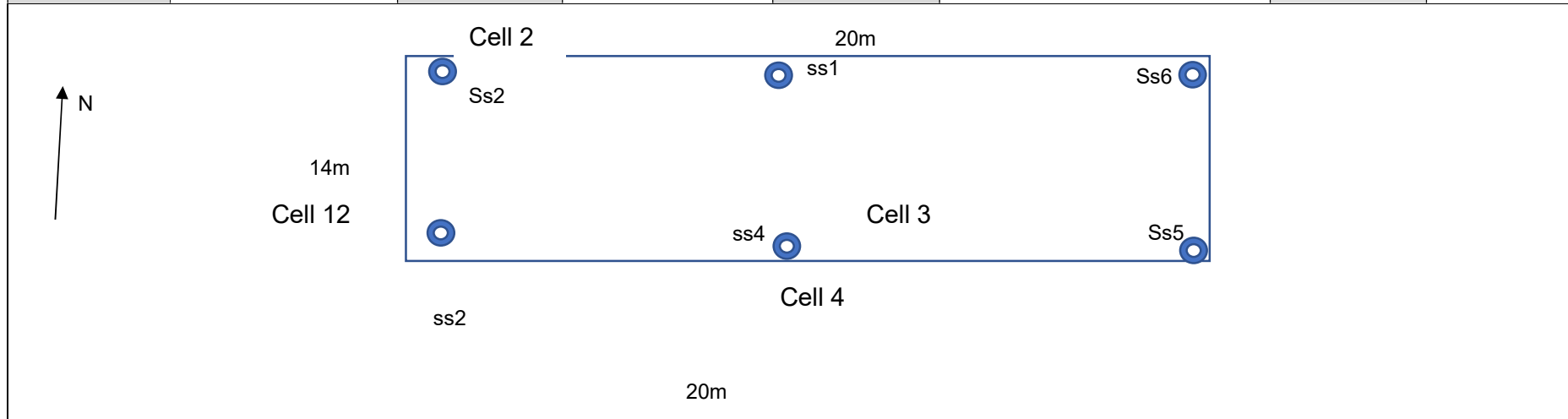
Approx. turnover volume:	270m ³	Depth made ground:	2m	Base of Cell Depth:	2.5m -3m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Brown/grey gravelly clay. Gravel is brick, concrete.						
Groundwater:	Groundwater at 2.5m to the eastern wall of the cell	PID readings:	High readings to the west and the centre of the cell; >500ppm	Lab Samples:	HS11cell2ss1 HS11cell2ss2 HS11cell2ss3 HS11cell2ss4 HS11cell2ss5	Lab ref:	21/1589b1V2



Job number	R2174c	Date	04.02.21	Cell No.	HS11 Cell3	Compiled by	bjt
							
							
Local deepening of made ground in east around relict pipe – water ingress				Competant bedrock at around 3m			
Section through natural clay and weathered bedrock				Full depth excavation			

HS11 Cell3

Approx. turnover volume:	110m ³	Depth made ground:	1-2.5.0m Deepens in east around VC pipe in infilled trench	Base of Cell Depth:	2.5m-3m	Source replacement Fill:	Site-won (clean overburden or aggregate)
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock.						
Groundwater:	Groundwater inflow base where competent Rough Rock rockhead	PID readings:	5ppm -150ppm	Lab Samples:	HS11cell3- SS1 HS11cell3- SS2 HS11cell3- SS3 HS11cell3- SS4 HS11cell3- SS5 HS11cell3- SS6	Lab ref:	21/1589



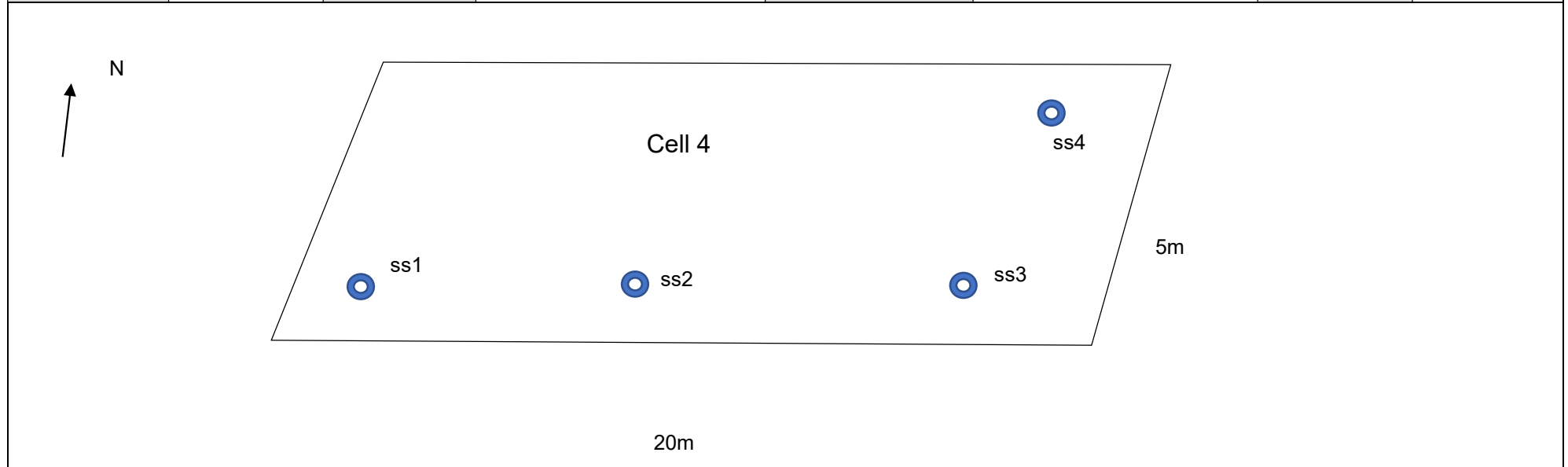
HS11 Cell4

Job number	R2174c	Date	04.02.21 – 05.02.21	Cell No.	HS11 Cell 4	Compiled by	CS
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 General view	 Sample location: ss1	 Sample location: ss2
	 Sample location: ss3	 Sample location: ss4

HS11 Cell4

Approx. turnover volume:	230m ³	Depth made ground:	2-2.5m	Base of Cell Depth:	2.5m -3m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Brown/grey slightly gravelly clay. Gravel is brick, concrete.						
Groundwater:	Groundwater at 2m	PID readings:	Readings in excess of 150ppm within the clay.	Lab Samples:	HS11cell4ss1 HS11cell4ss2 HS11cell4ss3 HS11cell4ss4	Lab ref:	21/1589b1V2



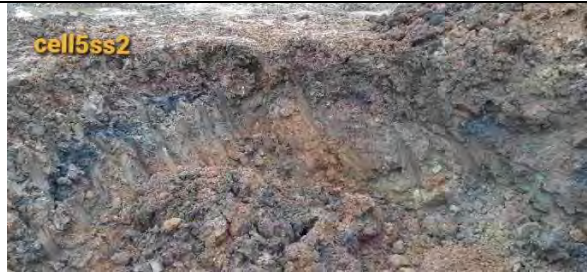
Job number	R2174c	Date	04-05.02.21	Cell No.	HS11 Cell 5	Compiled by	CS
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General view



Sample location: ss1



Sample location: ss2

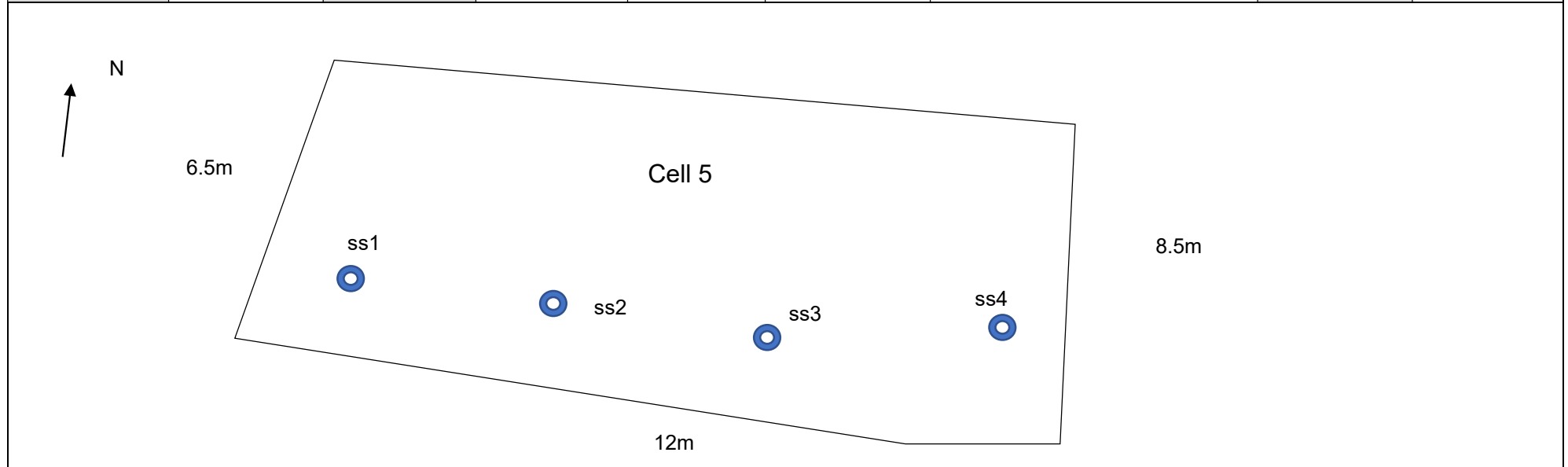


Sample location: ss3



Sample location: ss4

Approx. turnover volume:	385m ³	Depth made ground:	2.5m-3m	Depth bedrock:	3m – 3.5m	Base of Cell Depth:	3m -3.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Made ground: brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete.								
Groundwater:	Groundwater at 2m	PID readings:	Readings in excess of 100ppm within the clay.		Lab Samples:	HS11cell5ss1 HS11cell5ss2 HS11cell5ss3 HS11cell5ss4		Lab ref:	21/1589b1V2



HS11 Cell6

Job number	R2174c	Date	05.02.21	Cell No.	HS11 Cell 6	Compiled by	CS
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Sample location: ss1



Sample location: ss2

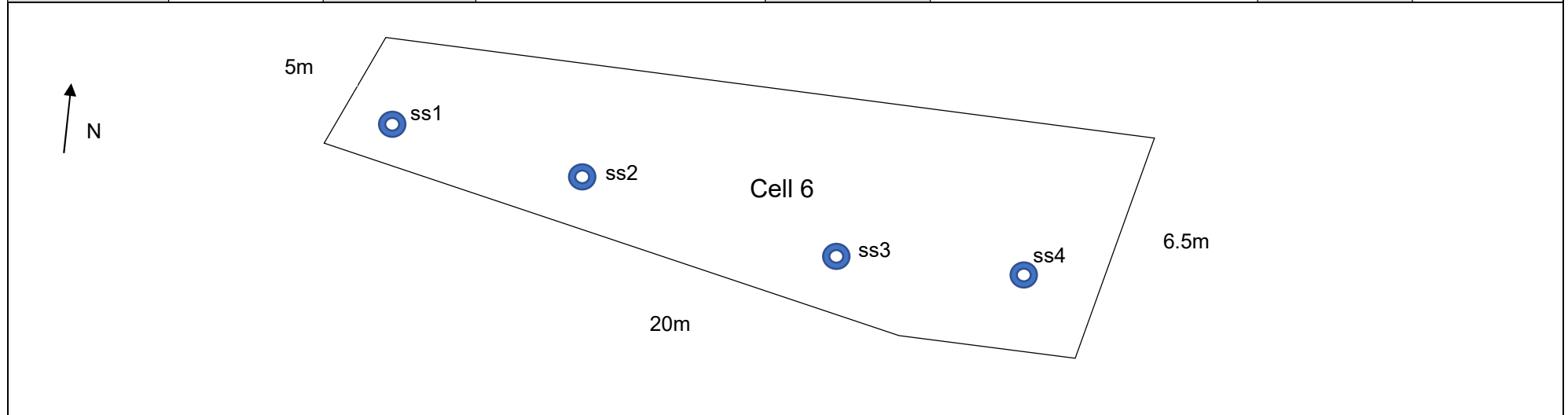


Sample location: ss3



Sample location: ss4

Approx. turnover volume:	300m ³	Depth made ground:	2m – 3m	Base of Cell Depth:	3m-3.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Blackish brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete.						
Groundwater:	Not observed	PID readings:	20ppm – 180ppm	Lab Samples:	HS11cell6ss1 HS11cell6ss2 HS11cell6ss3 HS11cell6ss4	Lab ref:	21/1589b1V2



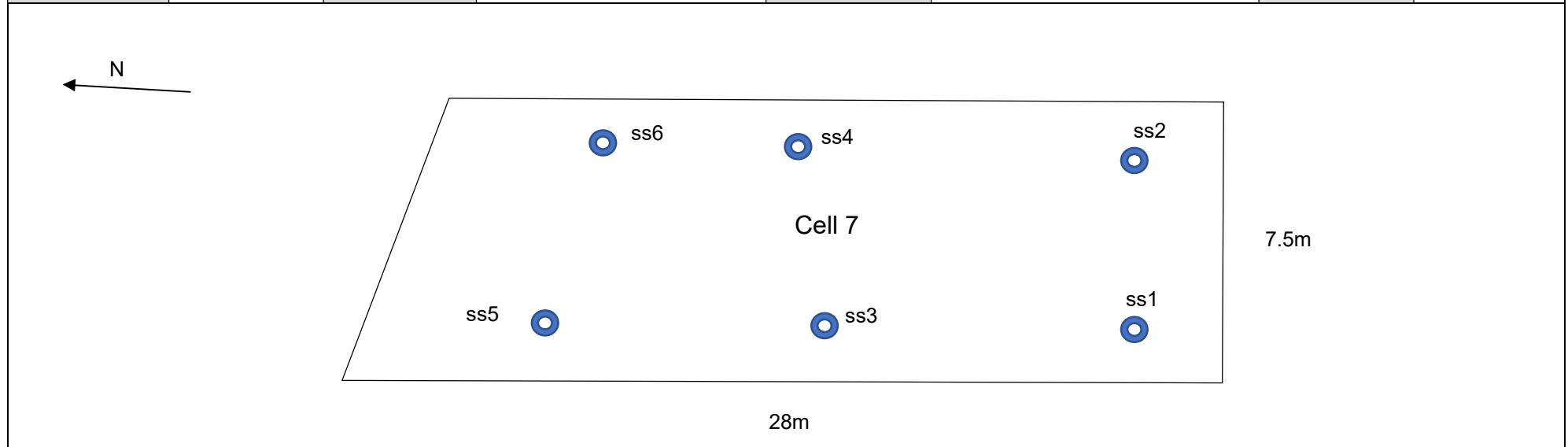
HS11 Cell7

Job number	R2174c	Date	08.02.21	Cell No.	HS11 Cell7	Compiled by	CS
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 Sample location ss1	 Sample location ss2	 Sample location ss3
 Sample location ss4	 Sample location ss5	 Sample location ss6

HS11 Cell7

Approx. turnover volume:	560m ³	Depth made ground:	2.5m-3m	Base of Cell Depth:	2.5m-3m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Made ground: Blackish brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete.						
Groundwater:	Groundwater not observed.	PID readings:	15ppm – 180ppm (north)	Lab Samples:	HS11cell7ss1 HS11cell7ss2 HS11cell7ss3 HS11cell7ss4 HS11cell7ss5 HS11cell7ss6	Lab ref:	21/1773b1



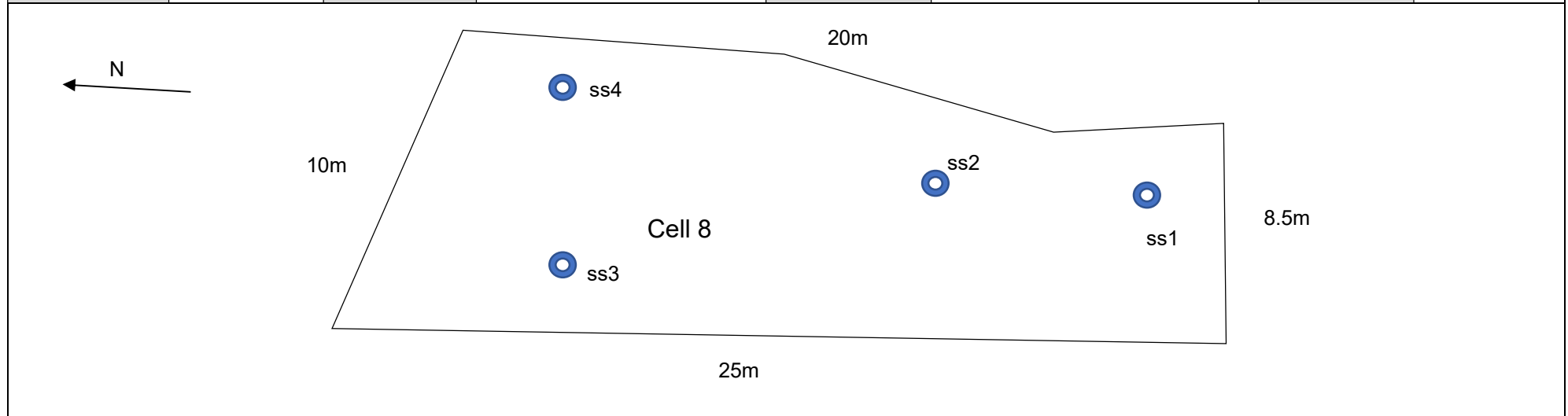
HS11 Cell8

Job number	R2174c	Date	08.02.21	Cell No.	HS11 Cell8	Compiled by	CS
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 General view	 Sample location ss1	 Sample location ss2	 Sample location ss3	 Sample location ss4
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HS11 Cell8

Approx. turnover volume:	520m ³	Depth made ground:	2.5m	Base of Cell Depth:	2.5m-3m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Blackish brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, concrete.						
Groundwater:	Groundwater inflow from the made ground 2.5m to the east	PID readings:	5ppm (south-west)– 160ppm (north/north-east)	Lab Samples:	HS11cell8ss1 HS11cell8ss2 HS11cell8ss3 HS11cell8ss4	Lab ref:	21/1773b1



Job number	R2174c	Date	09.02.21	Cell No.	HS10 Cell 2	Compiled by	BJT
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Excavation profile



Initial dig in south side



Extent of excavation



Second dig in north side (south backfilled with clen overburden)



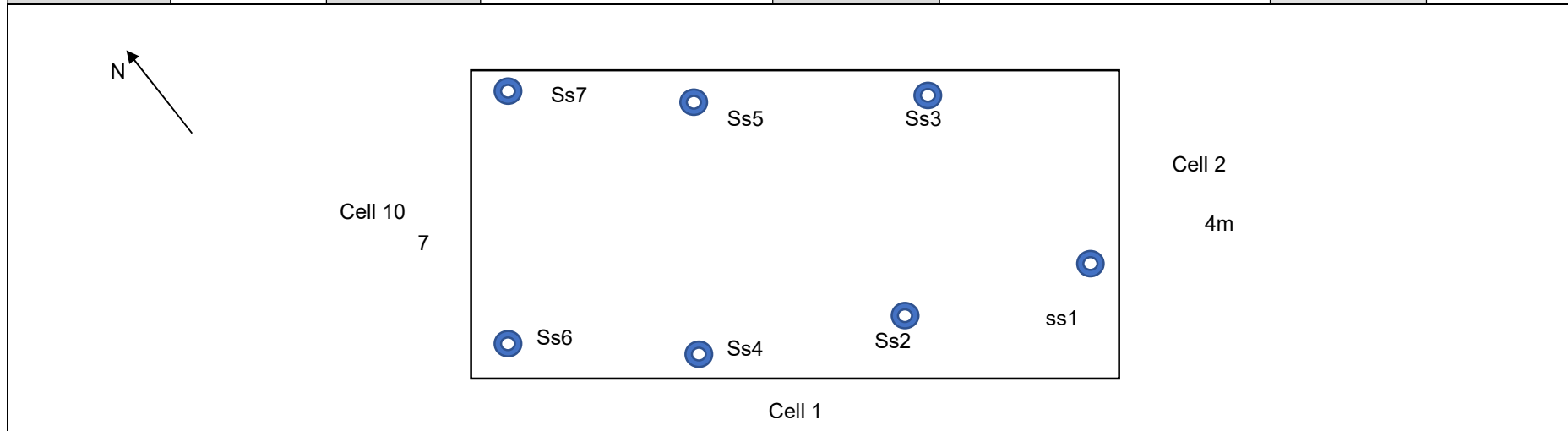
Ingress of water at base in competent rough rock



Base of excavation at 2.5-3.0m

HS10 Cell 9

Approx. turnover volume:	22m ³	Depth made ground:	2.0m	Base of Cell Depth:	2.0m	Source replacement Fill:	Replaced materials Site-won
Observations/ Contamination Remediation:	Removal of surface aggregate and made ground and clay of the Glacial Till down to the bedrock. Brown/grey slightly clayey to clayey sandy gravel. Moderate but transient odour of petroleum or white spirit becoming stronger in weathered bedrock						
Groundwater:	Minor entry at rockhead-sheen and some globules of free product visible	PID readings:	1-250ppm	Lab Samples:	HS11cell9 ss1 HS11cell9 ss2 HS11cell9 ss3 HS11cell9 ss4 HS11cell9 ss5 HS11cell9 ss6 HS11cell9 ss7	Lab ref:	21/1772



Job number	R2174c	Date	10.02.21	Cell No.	HS11 Cell10	Compiled by	CS
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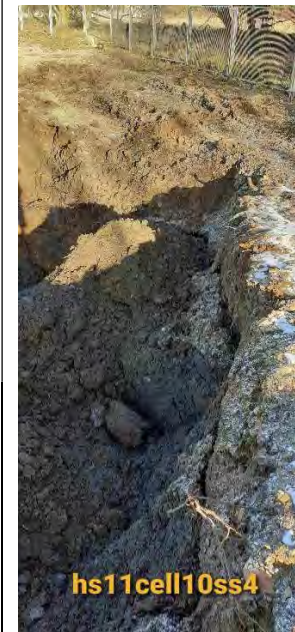
General view



General view



Sample location ss3



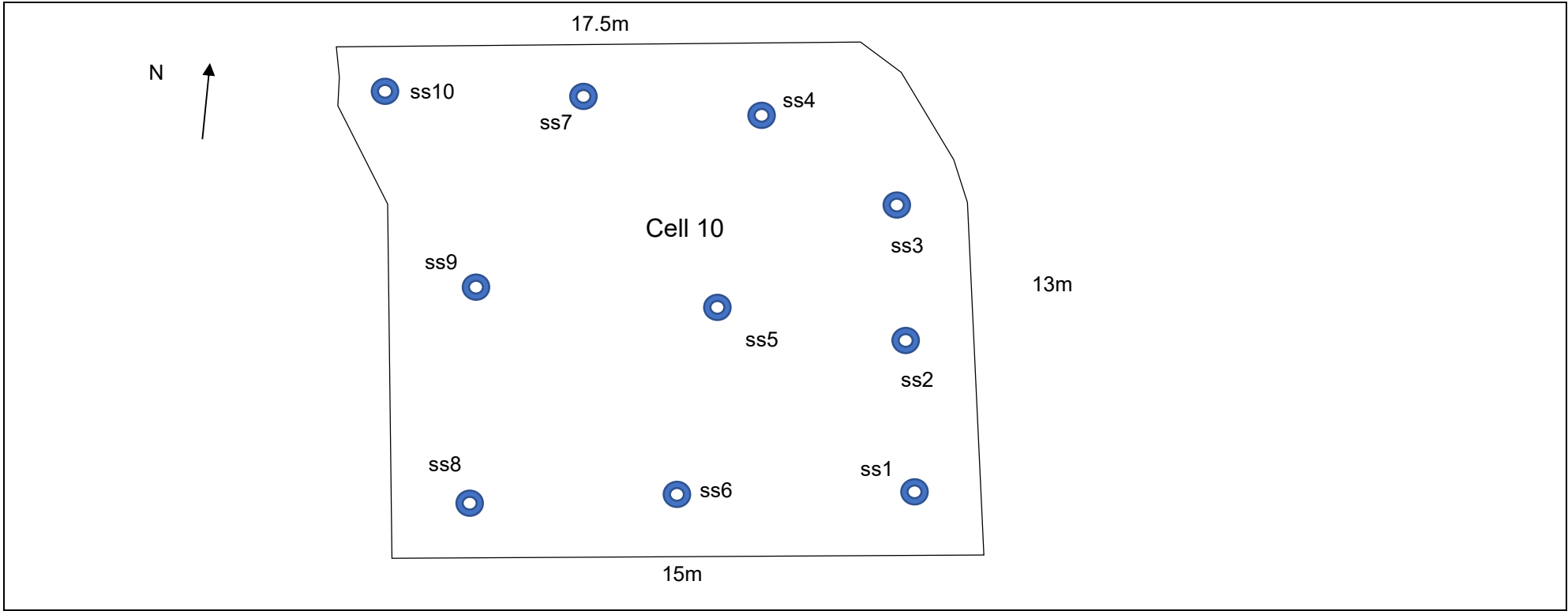
Sample location ss4



Sample location ss6

HS11 Cell10

Approx. turnover volume:	520m ³	Depth made ground:	2m-3m	Base of Cell Depth:	2.5m-3.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Removal of made ground. Made ground is brown/grey gravelly clay. Gravel is brick, sandstone, and concrete.						
Groundwater:	Groundwater at 2.5m.	PID readings:	10ppm – 150ppm	Lab Samples:	HS11cell10ss1 HS11cell10ss2 HS11cell10ss3 HS11cell10ss4 HS11cell10ss5 HS11cell10ss6 HS11cell10ss7 HS11cell10ss8 HS11cell10ss9 HS11cell10ss10	Lab ref:	21/1883b1V2



HS11 Cell11

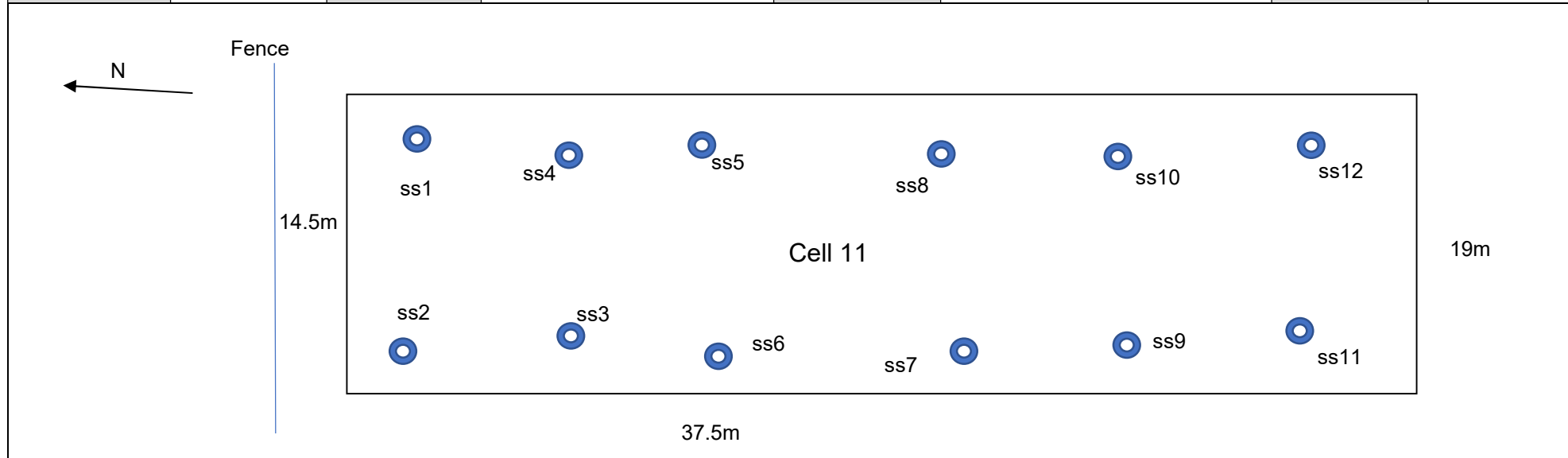
Job number	R2174c	Date	10.02.21- 11.02.21	Cell No.	HS11 Cell11	Compiled by	CS
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 HS11 Cell 11 – general view	 Sample location ss3 and ss4
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Approx. turnover volume:	1200m ³	Depth made ground:	2m	Base of Cell Depth:	2.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Blackish brown/grey slightly clayey to clayey sandy gravel. Gravel is brick, sandstone, and concrete. Slabs of concrete, occasional pipes						

HS11 Cell11

Groundwater:	Groundwater not observed	PID readings:	10ppm – 150ppm (north-east)	Lab Samples:	HS11cell11ss1 HS11cell11ss2 HS11cell11ss3 HS11cell11ss4 HS11cell11ss5 HS11cell11ss6 HS11cell11ss7 HS11cell11ss8 HS11cell11ss9 HS11cell11ss10 HS11cell11ss11 HS11cell11ss12	Lab ref:	21/1883b1V2
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HS11 Cell12

Job number	R2174c	Date	17.02.21	Cell No.	HS11 Cell12	Compiled by	CS
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General view

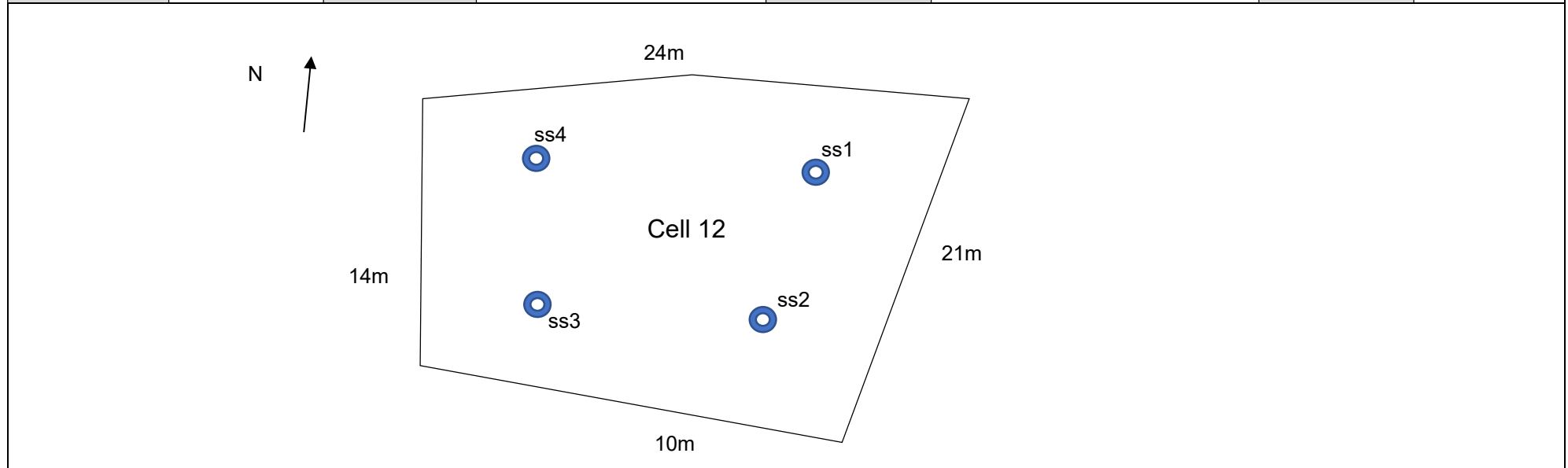


Samples location ss1 and ss2



Samples location ss3 and ss4

Approx. turnover volume:	750m ³	Depth made ground:	2m-2.5m	Base of Cell Depth:	2.5m-3.5m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Made ground locally very sandy gravelly clay. Gravel is brick and concrete.						
Groundwater:	Groundwater at 2m. Northern part of the cell flooded.	PID readings:	10ppm – 30ppm	Lab Samples:	HS11cell12ss1 HS11cell12ss2 HS11cell12ss3 HS11cell12ss4	Lab ref:	21/2280b1



Job number	R2174c	Date	18.02.21	Cell No.	HS13 Cell1	Compiled by	CS
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General view before excavation



Sample location ss1



Sample location ss2



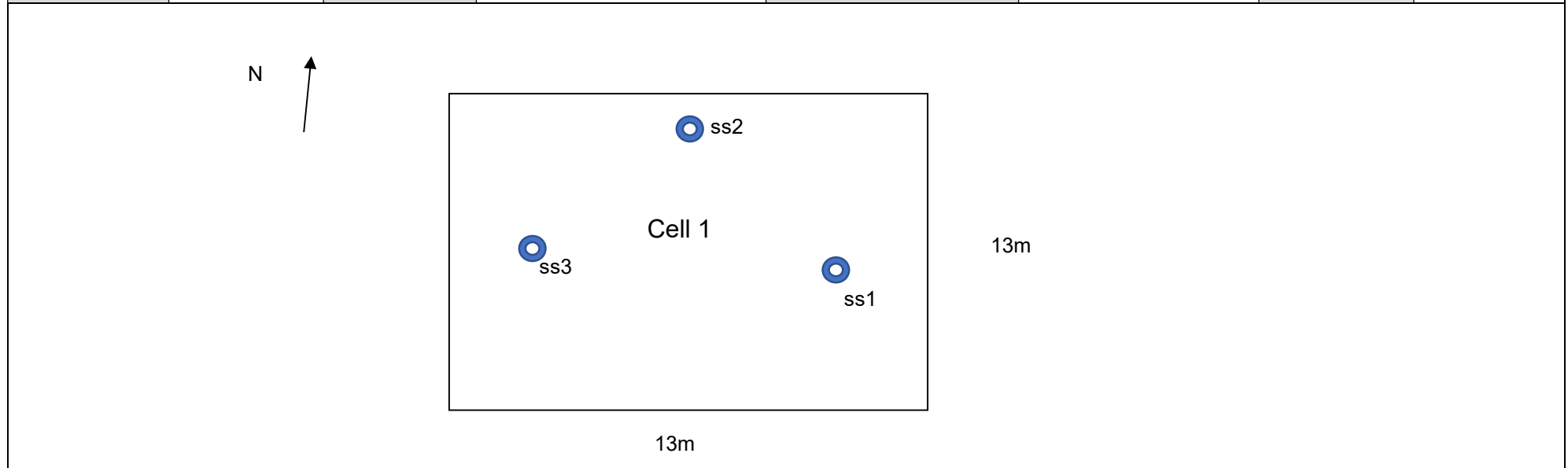
General view after excavation



Sample location ss3

HS13 Cell1

Approx. turnover volume:	250m ³	Depth made ground:	1.5m	Base of Cell Depth:	2m	Source replacement Fill:	Site-won
Observations/ Contamination Remediation:	Removal of made ground and clay of the Glacial Till down to the bedrock. Made is locally sandy gravelly clay, gravel is brick and concrete.						
Groundwater:	Groundwater at 2m to the northern wall of the cell.	PID readings:	1ppm – 20ppm	Lab Samples:	HS13cell1ss1 HS13cell1ss2 HS13cell1ss3	Lab ref:	21/2280b1



APPENDIX B

Chemical Analysis Results

Tier 1 Screening										42	100	27	130	1100	65000	65000											70	130	34	74	140	260	1100										
Lab ref	Sample	Depth	Date sampled	Natural Moisture Content	TOC	Dilution Required x100 >>100	>C5-C6 ^{mg}	>C6-C8 ^{mg}	>C8-C10	>C10-C12 ^{mg}	>C12-C16 ^{mg}	>C16-C21 ^{mg}	>C21-C35 ^{mg}	aliphatics ^{mg} /kg	>C5-EC7 ^{mg} /kg	>EC7-EC8 ^{mg} /kg	EC8-EC10 ^{mg} /kg	EC10-EC12 ^{mg} /kg	EC12-EC16 ^{mg} /kg	EC16-EC21 ^{mg} /kg	EC21-EC35 ^{mg} /kg	aromatics ^{mg} /kg	Cs and arom ^{ug} /kg	Tertiary Butyl ^{ug} /kg	Benzene ^{ug} /kg	Toluene ^{ug} /kg	thylbenzene ^{ug} /kg	m-p-Xylene ^{ug} /kg	o-Xylene ^{ug} /kg														
voice Approved				%	%	y/n	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg													
21/1453 b1	HS10-Cell 1-SS1	3.0	03.02.2021	16	0.48		0.1	0.3	0.5	0.2	4.0	7.0	7.0		0.1	0.2	1.4	0.2	4.0	7.0	7.0			7.0	8.0	227.0	128.0	1191.0	100.0														
21/1453 b1	HS10-Cell 1-SS2	3.0	03.02.2022	18.4	0.69		0.1	0.8	1.2	4.6	4.0	7.0	7.0		0.1	0.1	1.1	17.5	4.0	7.0	7.0			20.0	8.0	45.0	169.0	838.0	54.0														
21/1453 b1	HS10-Cell 1-SS3	3.0	03.02.2023	14.3	1.05		0.1	0.2	0.1	0.2	4.0	7.0	7.0		0.1	0.1	0.1	0.2	4.0	7.0	7.0			57.0	21.0	19.0	7.0	19.0	5.0														
21/1453 b1	HS10-Cell 1-SS4	3.0	03.02.2024	14.4	0.83		0.1	0.1	0.1	0.2	4.0	7.0	7.0		0.1	0.1	0.1	0.2	4.0	7.0	7.0			5.0	5.0	5.0	5.0	5.0	5.0														
1/1589 b1-V	HS10-Cell 1-SS5	3.0	03.02.2023	13.7	1.05		0.1	0.2	0.2	0.2	4.0	7.0	7.0		0.1	1.6	1.3	0.2	4.0	7.0	7.0			5.0	5.0	1400.0	306.0	890.0	127.0														
1/1589 b1-V	HS10-Cell 1-SS6	3.0	03.02.2034	16.7	1.3		0.2	0.5	2.7	0.2	4.0	7.0	7.0		0.1	0.6	3.2	0.2	4.0	7.0	7.0			5.0	5.0	540.0	5.0	2525.0	572.0														
1/1589 b1-V	HS10-Cell 2-SS1	3.5	03.02.2035	16.7	0.6		0.1	48.4	10.2	52.2	33.0	15.0	7.0		0.1	2.8	12.6	18.3	4.0	7.0	7.0			352.0	5.0	2871.0	2112.0	8572.0	1901.0														
21/1773 b1	HS10-Cell 3-SS1	2.5	08.02.2021	19.9	0.29		0.1	0.1	0.2	0.2	4.0	7.0	7.0		0.1	0.5	0.5	0.2	4.0	7.0	7.0			5	17	428	84	337	74														
21/1773 b1	HS10-Cell 3-SS2	2.5	08.02.2021	16.4	0.26		0.1	0.2	0.7	0.2	4.0	7.0	7.0		0.1	0.7	1.4	0.2	4.0	7.0	7.0			7	12	646	172	1100	130														
21/1773 b1	HS10-Cell 3-SS3	2.0	08.02.2021	9.3	0.34		6.7	367.8	604.9	272.1	28.0	8.0	37.0		1.0	902.0	1073.9	184.9	7.0	7.0	7.0			9849	253	901982	207804	718095	147956														
21/1773 b1	HS10-Cell 3-SS4	3.0	08.02.2021	9	1.83		0.1	0.1	0.1	6.1	14.0	14.0	22.0		0.1	0.2	0.2	4.5	10.0	22.0	17.0			5	5	166	41	169	43														
21/1773 b1	HS10-Cell 3-SS5	3.0	08.02.2021	10.6	0.17		0.1	0.1	0.1	0.2	4.0	7.0	7.0		0.1	0.1	0.2	0.2	4.0	7.0	7.0			5	5	64	33	157	46														
21/1773 b1	HS10-Cell 3-SS6	3.0	08.02.2021	18.1	0.5		1.0	10.4	10.4	115.0	15.0	11.0	27.0		1.0	1.0	6.7	37.8	15.0	21.0	20.0			50	50	548	1540	4565	652														
21/1773 b1	HS10-Cell 3-SS7	2.5	08.02.2021	16.6	0.51		0.1	0.8	0.8	10.8	4.0	7.0	7.0		0.1	0.2	0.5	7.2	4.0	7.0	7.0			5	5	184	64	335	83														
1/1772 b1 V	HS10-Cell 4-SS1	2.5	09.02.2021	24	0.39		2.4	132.9	225.3	57.5	11.0	9.0	7.0		0.1	292.0	498.0	31.2	4.0	7.0	7.0			3623	79	292035	102702	337491	57821														
1/1772 b1 V	HS10-Cell 4-SS10	3.0	09.02.2021	26.2	0.25		0.1	31.5	6.0	29.5	30.0	73.0	170.0		0.1	6.3	10.2	19.8	79.0	1098.0	1393.0			131	5	6313	1703	6973	1493														
1/1772 b1 V	HS10-Cell 4-SS11	3.0	09.02.2021	18.4	0.31		0.1	43.0	0.7	0.2	4.0	7.0	7.0		0.1	0.6	0.9	0.2	4.0	7.0	7.0			6	5	637	152	593	147														
1/1772 b1 V	HS10-Cell 4-SS2	2.5	09.02.2021	19	0.65		0.1	4.2	9.5	13.1	4.0	7.0	7.0		0.1	1.4	9.3	12.3	4.0	7.0	7.0			100	5	1471	1609	6625	1081														
1/1772 b1 V	HS10-Cell 4-SS3	2.5	09.02.2021	18.4	0.28		1.0	1.7	15.2	75.1	7.0	7.0	7.0		0.1	2.8	18.7	27.9	4.0	7.0	7.0			50	50	2888	2692	12534	3634														
1/1772 b1 V	HS10-Cell 4-SS4	3.0	09.02.2021	16.1	0.32		1.5	133.7	343.2	2160.2	166.0	66.0	14.0		0.1	493.4	493.4	594.2	72.0	66.0	9.0			2325	153	493467	100581	331626	62202														
1/1772 b1 V	HS10-Cell 4-SS5	3.0	09.02.2021	13.5	0.45		1.8	655.7	448.4	1072.6	254.0	141.0	39.0		0.1	431.6	509.4	336.9	118.0	244.0	35.0			1799	5	431602	93054	347464	68711														
1/1772 b1 V	HS10-Cell 4-SS6	3.0	09.02.2021	17.4	0.42		31.0	17.3	90.3	931.6	180.0	85.0	19.0		1.0	1.5	32.6	230.0	63.0	140.0	28.0			50	50	1514	4239	22810	5660														
1/1772 b1 V	HS10-Cell 4-SS7	2.5	09.02.2021	19.2	0.48		2.7	894.8	314.8	500.9	113.0	70.0	15.0		0.1	234.6	294.2	175.5	55.0	114.0	24.0			2127	5	234633	53344	200443	40338														
1/1772 b1 V	HS10-Cell 4-SS8	2.5	09.02.2021	19	0.36		5.9	664.1	104.4	233.2	40.0	24.0	13.0		0.1	346.3	164.3	77.1	19.0	28.0	7.0			2510	5	346316	30530	109867	24716														
1/1772 b1 V	HS10-Cell 4-SS9	3.0	09.02.2021	20.5	0.46		1.2	598.8	52.9	126.6	67.0	51.0	16.0		0.1	5.5	22.2	49.0	49.0	72.0	12.0			2379	50	5496	3109	14841	4193														
21/2151 b1	HS10-Cell 5-SS1	2.0	15.02.2021	11.7	0.15		0.1	9.3	8.9	161.0	146.0	135.0	45.0		0.1	0.2	8.8	62.8	71.0	87.0	25.0			20	5	236	1402	6686	728														
21/2151 b1	HS10-Cell 5-SS2	1.5	15.02.2021	21	0.47		0.4	21.3	25.8	323.1	526.0	578.0	257.0		0.1	3.3	5.7	112.0	324.0	387.0	137.0			186	5	3263	1216	3347	1097														
21/2151 b1	HS10-Cell 5-SS3	1.5	15.02.2021	24.3	2.19		2.1	954.1	160.2	11.4	7.0	7.0	7.0		1.0	111.9	221.8	8.9	4.0	7.0	7.0			2958	50	111838	38931	150847	31982														
21/2151 b1	HS10-Cell 5-SS4	1.5	15.02.2021	18.1	2.57		1.8	445.7	96.7	85.9	159.0	159.0	214.0		1.0	289.9	243.4	54.7	71.0	161.0	489.0			1709	426	289984	41050	164155	38221														
21/2151 b1	HS10-Cell 5-SS5	2.0	15.02.2021	21.7	1.97		3.0	1067.4	264.8	88.1	30.0	30.0	84.0		1.0	377.0	413.9	39.9	16.0	26.0	7.0			4221	50	377010	72758	279966	61181														
21/2151 b1	HS10-Cell 5-SS6	2.5	15.02.2021	11.8	0.17		0.1	0.3	1.3	53.7	295.0	295.0	215.0		0.1	0.1	0.2	19.0	115.0	186.0	75.0			5	5	35	47	121	44														
21/2151 b1	HS10-Cell 5-SS7	2.5	16.02.2021	18.1	1.17		1.0	9.9	12.0	9.1	7.0	7.0	7.0		1.0	5.6	15.8	8.1	4.0	7.0	7.0			193	50	5551	3105	10879	1861														
21/2151 b1	HS10-Cell 5-SS8	3.0	16.02.2021	18.8	0.91		1.0	5.0	21.6	398.7	925.0	925.0	481.0		1.0	1.0	1.8	108.5	505.0	605.0	245.0			50	50	168	557	880	387														
						Min	0.1	0.1	0.1	0.2	4.0	7.0	7.0		0.1	0.1	0.1	0.2	4.0	7.0	7.0			5.0	5.0	5.0	5.0	5.0	5.0														
						Max	31.0	1067.4	604.9	2160.2	925.0	925.0	481.0		1.0	902.0	1073.9	594.2	505.0	1098.0	1393.0			9849.0	426.0	901982.0	207804.0	718095.0	147956.0														
						No	33.0	33.0	33.0	33.0	33.0	33.0	33.0		33.0	33.0	33.0	33.0	33.0	33.0	33.0			33.0	33.0	33.0	33.0	33.0	33.0	33.0													
21/1453 b1	HS11-Cell 1-SS1	1.6	03.02.2025	25.8	1		0.1	0.1	0.3	5.0	4.0	7.0	7.0		0.1	0.3	0.8	8.3	4.0	7.0	7.0			5.0	5.0	308.0	62.0	557.0	143.0														
21/1453 b1	HS11-Cell 1-SS2	3.0	03.02.2026	14.5	0.8		0.1	0.1	0.1	0.2	4.0	7.0	7.0		0.1	0.1	0.1	0.2	4.0	7.0	7.0			5.0	5.0	103.0	17.0	71.0	24.0														
21/1453 b1	HS11-Cell 1-SS3	3.0	03.02.2027	12	0.14		0.1	0.1	0.1	14.1	4.0	7.0	7.0		0.1	0.1	0.3	19.3	4.0	7.0	7.0			25.0	116.0	25.0	295.0	40.0															
21/1453 b1	HS11-Cell 1-SS4	3.0	03.02.2028	12.6	0.2		0.1	0.2	2.7	2.1	1.3	4.0	7.0		0.1	5.0	5.1	4.7	41.0	47.0	7.0			47.0	12.0	4678.0	4978.0	3280.0	467.0														
21/1453 b1	HS11-Cell 1-SS5	3.0	03.02.2029	15.8	0.51		0.1	3.2	1.7	15.7	4.0	7.0	7.0		0.1	2.3	2.5	16.8	4.0	7.0	7.0			32.0	5.0	2326.0	2326.0	1651.0	581.0														
21/1453 b1	HS11-Cell 1-SS6	3.0	03.02.2030	7.8	0.12		0.8	1.0	1.2	0.2	4.0	7.0	7.0		0.1	1.2	2.7	0.2	4.0	7.0	7.0			17.0	18.0	1139.0	1139.0	1836.0	690.0														
21/1453 b1	HS11-Cell 1-SS7	3.0	03.02.2031	10.9	0.12		4.2	223.6	356.2	875.9	63.0	32.0	141.0		0.1	560.0	766.0	533.5	31.0	18.0	9.0			5543.0	5.0																		

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 15th February, 2021
Your reference : R2174C
Our reference : Test Report 21/1453 Batch 1
Location :
Date samples received : 3rd February, 2021
Status : Final report
Issue : 1

Thirteen samples were received for analysis on 3rd February, 2021 of which thirteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied. All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location:
Contact: Ben Thomas
EMT Job No: 21/1453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5	6-7	8-9	10-11	12-13	14-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	HS 10-CELL1-SS1	HS 10-CELL1-SS2	HS 10-CELL1-SS3	HS 10-CELL1-SS4	HS 11-CELL1-SS1	HS 11-CELL1-SS2	HS 11-CELL1-SS3	HS 11-CELL1-SS4	HS 11-CELL1-SS5	HS 11-CELL1-SS6			
Depth	3.00	3.00	3.00	3.00	1.60	3.00	3.00	3.00	3.00	3.00			
COC No / misc													
Containers	V J	V J	J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021			
Sample Type	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021			
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	0.8	<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	0.3	0.8	0.2	<0.1	0.1	<0.1	0.1	2.7	3.2	1.0	<0.1	mg/kg	TM36/PM12
>C8-C10	0.5	1.2	<0.1	<0.1	0.3	<0.1	0.1	2.1	1.7	1.2	<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	<0.2	4.6	<0.2	<0.2	5.0	<0.2	14.1	4.3	15.7	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	<19	<19	<19	<19	<19	<19	<19	<19	21	<19	<19	mg/kg	TM5/PM8/PM16/PM21/PM25
Aromatics													
>C5-EC7 [#]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.2	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	5.0	2.3	1.2	<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	1.4	1.1	<0.1	<0.1	0.8	<0.1	0.3	5.1	2.5	2.7	<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	17.5	<0.2	<0.2	8.3	<0.2	19.3	4.7	16.8	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	<19	<19	<19	<19	<19	<19	20	<19	22	<19	<19	mg/kg	TM5/PM8/PM16/PM21/PM25
Total aliphatics and aromatics(C5-35)	<38	<38	<38	<38	<38	<38	<38	<38	43	<38	<38	mg/kg	TM5/PM8/PM16/PM21/PM25
MTBE [#]	7	20	57	<5	<5	<5	25	47	32	17	<5	ug/kg	TM36/PM12
Benzene [#]	8	8	21	<5	<5	<5	11	12	<5	18	<5	ug/kg	TM36/PM12
Toluene [#]	227	45	19	<5	308	103	25	4978	2326	1139	<5	ug/kg	TM36/PM12
Ethylbenzene [#]	128	169	7	<5	62	17	225	830	269	180	<5	ug/kg	TM36/PM12
m/p-Xylene [#]	1191	838	19	<5	557	71	99	3280	1651	1836	<5	ug/kg	TM36/PM12
o-Xylene [#]	100	54	<5	<5	143	24	40	967	581	690	<5	ug/kg	TM36/PM12
Natural Moisture Content	16.0	18.4	14.3	14.4	25.8	14.5	12.0	12.6	15.8	7.8	<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.48	0.69	1.05	0.83	1.00	0.80	0.14	0.20	0.51	0.12	<0.02	%	TM21/PM24
Sample Type	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay		None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Dark Brown	Medium Brown	Medium Brown	Medium Brown	Light Brown	Medium Brown	Medium Brown	Light Brown		None	PM13/PM0
Other Items	stones	stones	stones	stones	stones	stones, sand	stones, sand	stones, sand	stones, sand	stones, sand		None	PM13/PM0

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location:
Contact: Ben Thomas
EMT Job No: 21/1453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	21-22	23-24										
Sample ID	HS 11-CELL1-SS7	HS 11-CELL1-SS8										
Depth	3.00	3.00										
COC No / misc												
Containers	V J	V J										
Sample Date	03/02/2021	03/02/2021										
Sample Type	Clay	Clay										
Batch Number	1	1										
Date of Receipt	03/02/2021	03/02/2021										
										Please see attached notes for all abbreviations and acronyms		
										LOD/LOR	Units	Method No.
TPH CWG												
Aliphatics												
>C5-C6 ^{#M}	>>4.2	0.6								<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	>>223.6	11.6								<0.1	mg/kg	TM36/PM12
>C8-C10	>>356.2	19.7								<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	875.9	11.8								<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	63	<4								<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	32	<7								<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	141	<7								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	1696	44								<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics												
>C5-EC7 [#]	>><0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	>>560.0	17.1								<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	>>766.0	42.0								<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	533.5	8.6								<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	31	<4								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	18	<7								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	91	<7								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	2000	68								<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	3696	112								<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	5543 ^{SV}	413								<5	ug/kg	TM36/PM12
Benzene [#]	<5 ^{SV}	<5								<5	ug/kg	TM36/PM12
Toluene [#]	>>560069	>>17067								<5	ug/kg	TM36/PM12
Ethylbenzene [#]	>>114675	6248								<5	ug/kg	TM36/PM12
m/p-Xylene [#]	>>531339	>>28645								<5	ug/kg	TM36/PM12
o-Xylene [#]	>>119999	7112								<5	ug/kg	TM36/PM12
Natural Moisture Content	10.9	11.7								<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.12	0.10								<0.02	%	TM21/PM24
Sample Type	Clay	Clay									None	PM13/PM0
Sample Colour	Light Brown	Light Brown									None	PM13/PM0
Other Items	stones, sand	stones, sand									None	PM13/PM0

Element Materials Technology

Client Name: Smith Grant LLP
 Reference: R2174C
 Location:
 Contact: Ben Thomas
 EMT Job No: 21/1453

Report : Product

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
 H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

EMT Sample No.	25-26												
Sample ID	HS 11-CELL1-PO1												
Depth	3.50												
COC No / misc													
Containers	V												
Sample Date	03/02/2021												
Sample Type	Product												
Batch Number	1												
Date of Receipt	03/02/2021												
Whole Oil Trace #	See Attached												
TPH CWG													
Aliphatics													
>C5-C6 #	0.8										<0.1	%	TM1/PM0
>C6-C8 #	8.8										<0.1	%	TM1/PM0
>C8-C10 #	5.7										<0.1	%	TM1/PM0
>C10-C12 #	3.5										<0.1	%	TM1/PM0
>C12-C16 #	<0.1										<0.1	%	TM1/PM0
>C16-C21 #	<0.1										<0.1	%	TM1/PM0
>C21-C35 #	<0.1										<0.1	%	TM1/PM0
Aromatics													
>EC6-EC8 #	33.8										<0.1	%	TM1/PM0
>EC8-EC10 #	42.9										<0.1	%	TM1/PM0
>EC10-EC12 #	4.5										<0.1	%	TM1/PM0
>EC12-EC16 #	<0.1										<0.1	%	TM1/PM0
>EC16-EC21 #	<0.1										<0.1	%	TM1/PM0
>EC21-EC35 #	<0.1										<0.1	%	TM1/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R2174C
Location:
Contact: Ben Thomas
EMT Job No: 21/1453

VOC Report : **Product**

EMT Sample No.	25-26												
Sample ID	HS 11-CELL1- PO1												
Depth	3.50												
COC No / misc													
Containers	V												
Sample Date	03/02/2021												
Sample Type	Product												
Batch Number	1												
Date of Receipt	03/02/2021												
VOC MS											LOD/LOR	Units	Method No.
Dichlorodifluoromethane	<0.01										<0.01	%	TM124/PM0
Methyl Tertiary Butyl Ether	<0.05										<0.05	%	TM124/PM0
Chloromethane	<0.01										<0.01	%	TM124/PM0
Vinyl Chloride	<0.01										<0.01	%	TM124/PM0
Bromomethane	<0.01										<0.01	%	TM124/PM0
Chloroethane	<0.01										<0.01	%	TM124/PM0
Trichlorofluoromethane	<0.01										<0.01	%	TM124/PM0
1,1-Dichloroethene (1,1 DCE)	<0.01										<0.01	%	TM124/PM0
Dichloromethane (DCM)	<0.01										<0.01	%	TM124/PM0
trans-1-2-Dichloroethene	<0.01										<0.01	%	TM124/PM0
1,1-Dichloroethane	<0.01										<0.01	%	TM124/PM0
cis-1-2-Dichloroethene	<0.01										<0.01	%	TM124/PM0
2,2-Dichloropropane	<0.01										<0.01	%	TM124/PM0
Bromochloromethane	<0.01										<0.01	%	TM124/PM0
Chloroform	<0.01										<0.01	%	TM124/PM0
1,1,1-Trichloroethane	<0.01										<0.01	%	TM124/PM0
1,1-Dichloropropene	<0.01										<0.01	%	TM124/PM0
Carbon tetrachloride	<0.01										<0.01	%	TM124/PM0
1,2-Dichloroethane	<0.01										<0.01	%	TM124/PM0
Benzene	<0.01										<0.01	%	TM124/PM0
Trichloroethene (TCE)	0.07										<0.01	%	TM124/PM0
1,2-Dichloropropane	<0.01										<0.01	%	TM124/PM0
Dibromomethane	<0.01										<0.01	%	TM124/PM0
Bromodichloromethane	<0.01										<0.01	%	TM124/PM0
cis-1-3-Dichloropropene	<0.01										<0.01	%	TM124/PM0
Toluene	26.30										<0.01	%	TM124/PM0
trans-1-3-Dichloropropene	<0.01										<0.01	%	TM124/PM0
1,1,2-Trichloroethane	<0.01										<0.01	%	TM124/PM0
Tetrachloroethene (PCE)	0.04										<0.01	%	TM124/PM0
1,3-Dichloropropane	<0.01										<0.01	%	TM124/PM0
Dibromochloromethane	<0.01										<0.01	%	TM124/PM0
1,2-Dibromoethane	<0.01										<0.01	%	TM124/PM0
Chlorobenzene	0.05										<0.01	%	TM124/PM0
1,1,1,2-Tetrachloroethane	<0.01										<0.01	%	TM124/PM0
Ethylbenzene	8.55										<0.01	%	TM124/PM0
m/p-Xylene	26.66										<0.01	%	TM124/PM0
o-Xylene	6.81										<0.01	%	TM124/PM0
Styrene	<0.01										<0.01	%	TM124/PM0
Bromoform	<0.01										<0.01	%	TM124/PM0
Isopropylbenzene	0.24										<0.01	%	TM124/PM0
1,1,2,2-Tetrachloroethane	<0.01										<0.01	%	TM124/PM0
Bromobenzene	<0.01										<0.01	%	TM124/PM0
1,2,3-Trichloropropane	<0.01										<0.01	%	TM124/PM0
Propylbenzene	0.92										<0.01	%	TM124/PM0
2-Chlorotoluene	<0.01										<0.01	%	TM124/PM0
1,3,5-Trimethylbenzene	2.41										<0.01	%	TM124/PM0
4-Chlorotoluene	<0.01										<0.01	%	TM124/PM0
tert-Butylbenzene	0.30										<0.01	%	TM124/PM0
1,2,4-Trimethylbenzene	3.82										<0.01	%	TM124/PM0
sec-Butylbenzene	0.23										<0.01	%	TM124/PM0
4-Isopropyltoluene	0.12										<0.01	%	TM124/PM0
1,3-Dichlorobenzene	<0.01										<0.01	%	TM124/PM0
1,4-Dichlorobenzene	<0.01										<0.01	%	TM124/PM0
n-Butylbenzene	<0.01										<0.01	%	TM124/PM0
1,2-Dichlorobenzene	<0.01										<0.01	%	TM124/PM0
1,2-Dibromo-3-chloropropane	<0.01										<0.01	%	TM124/PM0
1,2,4-Trichlorobenzene	<0.01										<0.01	%	TM124/PM0
Hexachlorobutadiene	<0.01										<0.01	%	TM124/PM0
Naphthalene	<0.01										<0.01	%	TM124/PM0
1,2,3-Trichlorobenzene	<0.01										<0.01	%	TM124/PM0

Please see attached notes for all abbreviations and acronyms

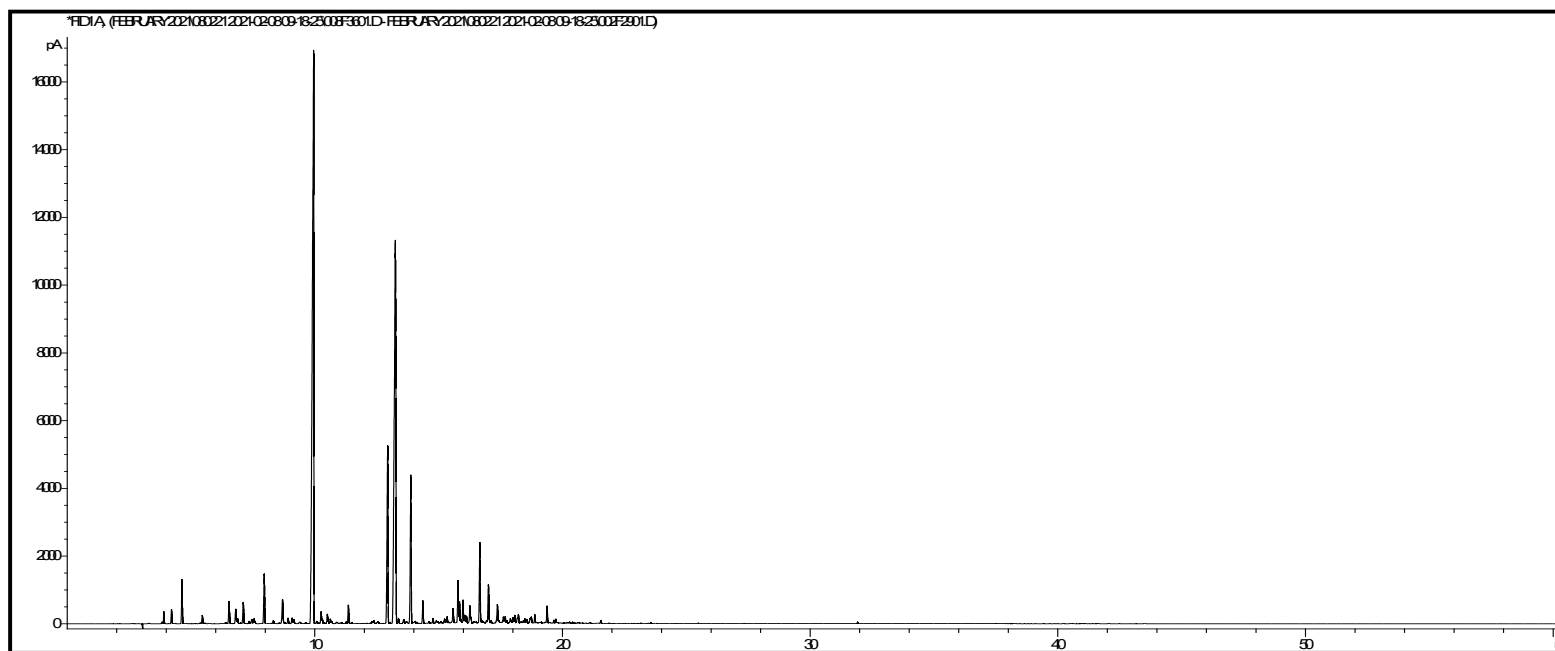
Client Name: Smith Grant LLP
Reference: R2174C
Location:
Contact: Ben Thomas

EMT Job No.: 21/1453
EMT Sample No.: 25
Sample Identity: HS 11-CELL1-PO1
Depth: 3.50

Description: Brown Oil on Water
Carbon Range: 5-12
Boiling Point Range (°C): 36-216
Pristane/Phytane Ratio: N/A
nC₁₇/Pristane Ratio: N/A
Age of Diesel (+/- 2 years)*: N/A

Interpretation: Degraded Gasoline

Chromatogram:



*The age of release estimated in this report is based on the nC₁₇/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996). Age estimation should be treated with caution as it can be influenced by site specific factors that the laboratory are not aware of.

Client Name: Smith Grant LLP

Reference: R2174C

Location:

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/1453

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 21/1453

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM1	Modified USEPA 8015B v2:1996 method for the determination of carbon banding in oil and product samples by GC-FID.	PM0	No preparation is required.			AR	
TM1	Modified USEPA 8015B v2:1996 method for the determination of carbon banding in oil and product samples by GC-FID.	PM0	No preparation is required.	Yes		AR	
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 21/1453

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes
TM124	Modified USEPA 8260B v2:1996. Semi- Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM0	No preparation is required.			AR	

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 3rd March, 2021
Your reference : R2174C
Our reference : Test Report 21/1589 Batch 1
Location : Tetrosyl URL
Date samples received : 5th February, 2021
Status : Final report
Issue : 2

Twenty six samples were received for analysis on 5th February, 2021 of which twenty six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1589

Solids: V=60g VOC jar. J=250g glass jar. T=plastic tub

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1589

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-42	43-44	45-46	47-48	49-50	51-52					Please see attached notes for all abbreviations and acronyms		
Sample ID	HS11-CELL5-SS3	HS11-CELL5-SS4	HS11-CELL6-SS1	HS11-CELL6-SS2	HS11-CELL6-SS3	HS11-CELL6-SS4							
Depth	2.50	2.50	3.00	2.50	2.00	2.50							
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J							
Sample Date	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021							
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand							
Batch Number	1	1	1	1	1	1							
Date of Receipt	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021					LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	>>1.6	>>7.6	<0.1	<0.1	>>4.0	>>4.4					<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	>>215.6	>>464.5	<0.1	0.2	>>100.0	>>202.9					<0.1	mg/kg	TM36/PM12
>C8-C10	>>246.9	>>428.1	<0.1	0.5	>>140.0	>>179.8					<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	184.9	214.7	<0.2	<0.2	28.0	95.2					<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	18	21	<4	<4	<4	13					<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	667	1136	<19	<19	272	495					<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	>>0.3	>>0.9	<0.1	<0.1	>>0.2	>>1.0					<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	>>1228.4	>>2119.6	<0.1	0.2	>>557.6	>>1092.0					<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	>>726.8	>>704.7	0.2	0.5	>>426.2	>>561.1					<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	132.9	180.7	<0.2	<0.2	18.0	95.4					<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	5	6	<4	<4	<4	13					<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	2093	3012	<19	<19	1002	1763					<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	2760	4148	<38	<38	1274	2258					<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	1944 ^{SV}	>>14019	<5	16	1349 ^{SV}	4793 ^{SV}					<5	ug/kg	TM36/PM12
Benzene [#]	353 ^{SV}	896 ^{SV}	<5	<5	172 ^{SV}	972 ^{SV}					<5	ug/kg	TM36/PM12
Toluene [#]	>>1228450	>>2119573	103	204	>>557586	>>1091948					<5	ug/kg	TM36/PM12
Ethylbenzene [#]	>>140625	>>15704	23	72	>>85560	>>100518					<5	ug/kg	TM36/PM12
m/p-Xylene [#]	>>486653	>>572344	187	385	>>283893	>>377810					<5	ug/kg	TM36/PM12
o-Xylene [#]	>>99518	>>116642	24	56	>>56754	>>82705					<5	ug/kg	TM36/PM12
Natural Moisture Content	14.4	13.1	14.2	17.3	14.1	12.1					<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.28	0.18	0.42	0.56	0.53	0.24					<0.02	%	TM21/PM24
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand						None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown						None	PM13/PM0
Other Items	stones	stones	stones	stones	stones	stones						None	PM13/PM0

Matrix : Solid

Contact: Ben Thomas

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/1589

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Please include all sections of this report if it is reproduced

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

EMT Job No: 21/1589

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 2nd March, 2021
Your reference : R2174C
Our reference : Test Report 21/1772 Batch 1
Location : Tetrosyl
Date samples received : 9th February, 2021
Status : Final report
Issue : 2

Eighteen samples were received for analysis on 9th February, 2021 of which eighteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl
Contact: Ben Thomas
EMT Job No: 21/1772

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	HS10 CELL4 SS1	HS10 CELL4 SS2	HS10 CELL4 SS3	HS10 CELL4 SS4	HS10 CELL4 SS5	HS10 CELL4 SS6	HS10 CELL4 SS7	HS10 CELL4 SS8	HS10 CELL4 SS9	HS10 CELL4 SS10			
Depth	2.50	2.50	2.50	3.00	3.00	3.00	2.50	2.50	3.00	3.00			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021			
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clay			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	>>2.4	<0.1	<1.0 ^{AA}	>>1.5	>>1.8	<1.0 ^{AA}	>>2.7	>>5.9	1.2 ^{AA}	0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	>>132.9	4.2	1.7 ^{AA}	>>133.7	>>655.7	17.3 ^{AA}	>>894.8	>>664.1	598.8 ^{AA}	31.5	<0.1	mg/kg	TM36/PM12
>C8-C10	>>225.3	9.5	15.2 ^{AA}	>>343.2	>>448.4	90.3 ^{AA}	>>314.8	>>104.4	52.9 ^{AA}	6.0	<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	57.5	13.1	75.1	2160.2	1072.6	931.6	500.9	233.2	126.6	29.5	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	11	<4	7	166	254	180	113	40	67	30	<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	9	<7	<7	66	141	85	70	24	51	73	<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	<7	14	39	19	15	13	16	170	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	438	27	99	2885	2613	1323	1911	1085	914	340	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	>><0.1	<0.1	<1.0 ^{AA}	>>0.1	>><0.1	<1.0 ^{AA}	>><0.1	>><0.1	<1.0 ^{AA}	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	>>292.0	1.4	2.8 ^{AA}	>>493.4	>>431.6	1.5 ^{AA}	>>234.6	>>346.3	5.5 ^{AA}	6.3	<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	>>498.0	9.3	18.7 ^{AA}	>>494.4	>>509.4	32.6 ^{AA}	>>294.2	>>164.3	22.2 ^{AA}	10.2	<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	31.2	12.3	37.9	594.2	336.9	230.0	175.5	77.1	49.0	19.8	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	<4	72	118	63	55	19	49	79	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	66	244	140	114	28	72	1098	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	9	35	28	24	<7	12	1393	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	821	23	59	1729	1675	495	897	635	210	2606	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	1259	50	158	4614	4288	1818	2808	1720	1124	2946	<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	3623 ^{SV}	100	<50 ^{AA}	2325 ^{SV}	1796 ^{SV}	<50 ^{AA}	2127 ^{SV}	2510 ^{SV}	2379 ^{AA}	131	<5	ug/kg	TM36/PM12
Benzene [#]	79 ^{SV}	<5	<50 ^{AA}	153 ^{SV}	<5 ^{SV}	<50 ^{AA}	<5 ^{SV}	<5 ^{SV}	<50 ^{AA}	<5	<5	ug/kg	TM36/PM12
Toluene [#]	>>292035	1471	2888 ^{AA}	>>493467	>>431602	1514 ^{AA}	>>234633	>>346316	5486 ^{AA}	6313	<5	ug/kg	TM36/PM12
Ethylbenzene [#]	>>102702	1609	2692 ^{AA}	>>100581	>>93054	4239 ^{AA}	>>53344	>>30530	3109 ^{AA}	1703	<5	ug/kg	TM36/PM12
m/p-Xylene [#]	>>337491	6625	12354 ^{AA}	>>331626	>>347644	22810 ^{AA}	>>200443	>>108967	14841 ^{AA}	6973	<5	ug/kg	TM36/PM12
o-Xylene [#]	>>57821	1081	3634 ^{AA}	>>62202	>>68711	5600 ^{AA}	>>40338	>>24716	4193 ^{AA}	1493	<5	ug/kg	TM36/PM12
Natural Moisture Content	24.0	19.0	18.4	16.1	13.5	17.4	19.2	18.0	20.5	16.2	<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.39	0.65	0.28	0.32	0.45	0.42	0.48	0.36	0.46	0.25	<0.02	%	TM21/PM24
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clay		None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown		None	PM13/PM0
Other Items	stones, water	stones	stones	stones, oil	stones, oil	stones	stones, sand, oil	stones	stones	stones		None	PM13/PM0

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl
Contact: Ben Thomas
EMT Job No: 21/1772

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	21-22	23-24	25-26	27-28	29-30	31-32	35-36	37-38			Please see attached notes for all abbreviations and acronyms		
Sample ID	HS10 CELL4 SS11	HS11 CELL9 SS1	HS11 CELL9 SS2	HS11 CELL9 SS3	HS11 CELL9 SS4	HS11 CELL9 SS5	HS11 CELL9 SS6	HS11 CELL9 SS7					
Depth	3.00	2.00	3.00	3.00	2.50	2.50	2.00	3.00					
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J					
Sample Date	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021					
Sample Type	Clay	Clay	Clayey Sand	Clay	Clayey Sand	Clayey Sand	Clay	Clay					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021			LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	<0.1	<1.0 ^{AA}	1.2	>>2.8	3.7	<0.1	0.1			<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	4.3	4.0	139.7 ^{AA}	0.9	>>103.3	7.4	0.6	2.3			<0.1	mg/kg	TM36/PM12
>C8-C10	0.7	2.8	119.9 ^{AA}	0.7	>>228.7	8.2	0.4	5.7			<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	<0.2	44.1	282.8	<0.2	126.4	<0.2	<0.2	5.1			<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	<4	6	27	<4	8	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	<7	<7	21	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	<19	57	569	<19	490	19	<19	<19			<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1	<0.1	<1.0 ^{AA}	<0.1	>><0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.6	13.3	57.2 ^{AA}	1.3	>>311.0	22.1	0.9	2.5			<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	0.9	8.6	245.8 ^{AA}	1.7	>>764.9	33.3	2.3	13.0			<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	44.2	197.6	2.4	113.7	<0.2	<0.2	2.0			<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	7	<4	6	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	<19	66	508	<19	1196	55	<19	<19			<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	<38	123	1077	<38	1686	74	<38	<38			<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	6	27	2200 ^{AA}	14	5097 ^{SV}	233	46	49			<5	ug/kg	TM36/PM12
Benzene [#]	<5	<5	<50 ^{AA}	10	<5 ^{SV}	<5	39	<5			<5	ug/kg	TM36/PM12
Toluene [#]	637	13295	57215 ^{AA}	1265	>>310986	22061	923	2482			<5	ug/kg	TM36/PM12
Ethylbenzene [#]	152	1159	31883 ^{AA}	222	>>127858	5401	454	1828			<5	ug/kg	TM36/PM12
m/p-Xylene [#]	593	5898	170714 ^{AA}	1085	>>545301	22264	1681	9004			<5	ug/kg	TM36/PM12
o-Xylene [#]	147	1502	43148 ^{AA}	391	>>91789	5550	246	2168			<5	ug/kg	TM36/PM12
Natural Moisture Content	18.4	20.9	17.7	9.2	17.0	12.0	11.5	9.5			<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.31	1.19	0.25	0.15	0.24	0.09	0.43	0.10			<0.02	%	TM21/PM24
Sample Type	Clay	Clay	Clayey Sand	Clay	Clayey Sand	Clayey Sand	Clay	Clay				None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None	PM13/PM0
Other Items	stones	stones	stones	stones	stones	stones	stones	stones, sand				None	PM13/PM0

Client Name: Smith Grant LLP **Matrix :** Solid

Reference: R2174C

Location: Tetrosyl

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.

Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/1772

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x10 Dilution

EMT Job No: 21/1772

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 19th February, 2021
Your reference : R2174C
Our reference : Test Report 21/1773 Batch 1
Location : Tetrosyl URL
Date samples received : 9th February, 2021
Status : Final report
Issue : 1

Seventeen samples were received for analysis on 9th February, 2021 of which seventeen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied. All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1773

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	HS11 CELL7 SS1	HS11 CELL7 SS2	HS11 CELL7 SS3	HS11 CELL7 SS4	HS11 CELL7 SS5	HS11 CELL7 SS6	HS11 CELL8 SS1	HS11 CELL8 SS2	HS11 CELL8 SS3	HS11 CELL8 SS4			
Depth	2.50	2.50	3.00	3.00	2.50	2.50	3.00	3.00	2.50	3.00			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021			
Sample Type	Clay	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clayey Sand	Clay			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021			
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1 ^{SV}	>>3.1 ^{AA}	>><1.0 ^{AA}	>><1.0 ^{AA}	<1.0 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<1.0 ^{AA}	<1.0 ^{AA}	<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	1.3 ^{SV}	>>166.9 ^{AA}	>>38.0 ^{AA}	>>60.1 ^{AA}	35.3 ^{AA}	0.5	0.2	12.1 ^{AA}	23.1 ^{AA}	19.4 ^{AA}	<0.1	mg/kg	TM36/PM12
>C8-C10	0.9 ^{SV}	>>224.7 ^{AA}	>>117.6 ^{AA}	>>117.4 ^{AA}	77.0 ^{AA}	1.7	0.7	24.7 ^{AA}	70.1 ^{AA}	39.6 ^{AA}	<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	80.5	217.6	150.3	301.7	119.8	10.9	<0.2	53.4	42.2	72.1	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	148	22	21	28	17	<4	<4	12	11	15	<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	128	12	9	13	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	119	36	<7	42	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	478	682	336	562	249	<19	<19	102	146	146	<19	mg/kg	TM5/PM8/PM16/PM21/PM25
Aromatics													
>C5-EC7 [#]	<0.1 ^{SV}	>><1.0 ^{AA}	>><1.0 ^{AA}	>><1.0 ^{AA}	<1.0 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<1.0 ^{AA}	<1.0 ^{AA}	<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	6.5 ^{SV}	>>516.8 ^{AA}	>>69.7 ^{AA}	>>138.8 ^{AA}	41.2 ^{AA}	0.5	1.3	22.0 ^{AA}	66.2 ^{AA}	25.8 ^{AA}	<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	2.2 ^{SV}	>>447.7 ^{AA}	>>193.6 ^{AA}	>>185.8 ^{AA}	97.0 ^{AA}	2.0	1.7	36.8 ^{AA}	113.0 ^{AA}	50.9 ^{AA}	<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	14.4	153.2	94.3	229.8	81.0	7.3	<0.2	30.7	30.7	44.7	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	81	6	<4	11	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	205	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	404	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	713	1124	358	565	219	<19	<19	90	210	121	<19	mg/kg	TM5/PM8/PM16/PM21/PM25
Total aliphatics and aromatics(C5-35)	1191	1806	694	1127	468	<38	<38	192	356	267	<38	mg/kg	TM5/PM8/PM16/PM21/PM25
MTBE [#]	<5 ^{SV}	3656 ^{AA}	683 ^{AA}	1010 ^{AA}	796 ^{AA}	<5	<5	173 ^{AA}	145 ^{AA}	354 ^{AA}	<5	ug/kg	TM36/PM12
Benzene [#]	17 ^{SV}	134 ^{AA}	<50 ^{AA}	<50 ^{AA}	<50 ^{AA}	<5	<5	<50 ^{AA}	<50 ^{AA}	<50 ^{AA}	<5	ug/kg	TM36/PM12
Toluene [#]	6471 ^{SV}	>>516861 ^{AA}	69651 ^{AA}	138704 ^{AA}	41114 ^{AA}	473	1212	22010 ^{AA}	66173 ^{AA}	25830 ^{AA}	<5	ug/kg	TM36/PM12
Ethylbenzene [#]	491 ^{SV}	90237 ^{AA}	33527 ^{AA}	36235 ^{AA}	16709 ^{AA}	287	325	6217 ^{AA}	19471 ^{AA}	8841 ^{AA}	<5	ug/kg	TM36/PM12
m/p-Xylene [#]	1395 ^{SV}	>>293942 ^{AA}	128802 ^{AA}	122276 ^{AA}	64784 ^{AA}	1382	1137	24313 ^{AA}	74444 ^{AA}	33701 ^{AA}	<5	ug/kg	TM36/PM12
o-Xylene [#]	269 ^{SV}	63583 ^{AA}	31199 ^{AA}	27233 ^{AA}	15507 ^{AA}	344	272	6231 ^{AA}	19089 ^{AA}	8404 ^{AA}	<5	ug/kg	TM36/PM12
Natural Moisture Content	22.7	17.7	14.4	16.9	13.4	18.5	14.2	17.1	13.1	18.9	<0.1	%	PM4/PM0
Total Organic Carbon [#]	39.21	0.50	0.63	0.36	0.59	0.22	0.96	0.69	0.29	0.74	<0.02	%	TM21/PM24
Sample Type	Clay	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clayey Sand	Clay		None	PM13/PM0
Sample Colour	Dark Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown		None	PM13/PM0
Other Items	stones, clinker	stones	stones	stones	stones	stones, sand	stones	stones	stones	stones		None	PM13/PM0

Please include all sections of this report if it is reproduced

QF-PM 3.1.2 v11

All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1773

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	21-22	23-24	25-26	27-28	29-30	31-32	33-34				Please see attached notes for all abbreviations and acronyms		
Sample ID	HS10 CELL3 SS1	HS10 CELL3 SS2	HS10 CELL3 SS3	HS10 CELL3 SS4	HS10 CELL3 SS5	HS10 CELL3 SS6	HS10 CELL3 SS7						
Depth	2.50	2.50	2.00	3.00	3.00	3.00	2.50						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021						
Sample Type	Clay	Clayey Sand	Clayey Sand	Clay	Clay	Clay	Clay						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021				LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	<0.1	>>6.7 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	0.1	0.2	>>367.8 ^{AA}	<0.1	<0.1	10.4 ^{AA}	0.8				<0.1	mg/kg	TM36/PM12
>C8-C10	0.2	0.7	>>604.9 ^{AA}	0.1	0.1	18.2 ^{AA}	1.3				<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	<0.2	<0.2	272.1	6.1	<0.2	115.0	10.8				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	<4	<4	28	14	<4	15	<4				<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	8	14	<7	11	<7				<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	37	22	<7	27	<7				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	<19	<19	1325	56	<19	197	<19				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1	<0.1	>><1.0 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.5	0.7	>>902.0 ^{AA}	0.2	<0.1	<1.0 ^{AA}	0.2				<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	0.5	1.4	>>1073.9 ^{AA}	0.2	0.2	6.7 ^{AA}	0.5				<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	<0.2	184.9	4.5	<0.2	37.8	7.2				<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	7	10	<4	15	<4				<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	22	<7	21	<7				<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	17	<7	20	<7				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	<19	<19	2168	54	<19	101	<19				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	<38	<38	3493	110	<38	298	<38				<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE[#]	<5	7	9849 ^{AA}	<5	<5	<50 ^{AA}	<5				<5	ug/kg	TM36/PM12
Benzene[#]	17	12	253 ^{AA}	<5	<5	<50 ^{AA}	<5				<5	ug/kg	TM36/PM12
Toluene[#]	428	646	>>901982 ^{AA}	166	64	548 ^{AA}	184				<5	ug/kg	TM36/PM12
Ethylbenzene[#]	84	172	>>207804 ^{AA}	41	33	1540 ^{AA}	64				<5	ug/kg	TM36/PM12
m/p-Xylene[#]	337	1100	>>718095 ^{AA}	169	157	4565 ^{AA}	335				<5	ug/kg	TM36/PM12
o-Xylene[#]	74	130	>>147956 ^{AA}	43	46	652 ^{AA}	83				<5	ug/kg	TM36/PM12
Natural Moisture Content	19.9	16.4	15.3	9.0	10.6	18.1	16.6				<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.29	0.26	0.34	1.83	0.17	0.50	0.51				<0.02	%	TM21/PM24
Sample Type	Clay	Clayey Sand	Clayey Sand	Clay	Clay	Clay	Clay				None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None		PM13/PM0
Other Items	stones	stones	stones	stones, sand	stones	stones	stones				None		PM13/PM0

Matrix : Solid

[illegible]

Client Name: Smith Grant LLP

Reference: R2174C

Location: Tetrosyl URL

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/1773

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x10 Dilution

Please include all sections of this report if it is reproduced

EMT Job No: 21/1773

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes

EMT Job No: 21/1773

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 2nd March, 2021
Your reference : R2174C
Our reference : Test Report 21/1883 Batch 1
Location : Tetrosyl URL
Date samples received : 11th February, 2021
Status : Final report
Issue : 2

Twenty two samples were received for analysis on 11th February, 2021 of which twenty two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1883

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	HS11 CELL10 SS1	HS11 CELL10 SS2	HS11 CELL10 SS3	HS11 CELL10 SS4	HS11 CELL10 SS5	HS11 CELL10 SS6	HS11 CELL10 SS7	HS11 CELL10 SS8	HS11 CELL10 SS9	HS11 CELL10 SS10			
Depth	3.00	3.00	3.00	3.00	3.00	3.00	2.50	2.50	2.00	2.00			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021			
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	<0.1	>>3.5	<0.1	<0.1	<0.1	>>9.7 ^{AB}	<0.5 ^{AA}	<0.1	0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	3.4	<0.1	>>151.8	<0.1	1.1	0.1	>>355.6 ^{AB}	6.3 ^{AA}	<0.1	2.6	<0.1	mg/kg	TM36/PM12
>C8-C10	4.6	<0.1	>>212.0	0.2	10.9	0.5	>>1718.7 ^{AB}	9.5 ^{AA}	<0.1	3.8	<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	<0.2	<0.2	204.0	<0.2	216.1	13.2	252.6	31.6	10.9	21.3	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	<4	<4	16	<4	24	<4	23	16	16	30	<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	<7	<7	<7	<7	<7	16	14	26	<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	<7	<7	<7	<7	<7	178	69	313	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	<19	<19	587	<19	252	<19	2360	257	110	397	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1	<0.1	>><0.1	<0.1	<0.1	<0.1	>><1.0 ^{AB}	<0.5 ^{AA}	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	9.0	<0.1	>>594.7	0.1	2.1	<0.1	>>264.5 ^{AB}	<0.5 ^{AA}	<0.1	0.6	<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	11.4	<0.1	>>692.9	0.3	20.3	0.2	>>2625.3 ^{AB}	5.6 ^{AA}	<0.1	1.7	<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	<0.2	151.4	<0.2	158.7	<0.2	146.0	21.4	9.8	12.5	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	14	<4	16	9	12	15	11	32	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	<7	9	15	<7	47	22	100	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	<7	<7	29	<7	381	143	594	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	20	<19	1453	<19	206	53	3048	470	186	741	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	<38	<38	2040	<38	458	53	5408	727	296	1138	<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	111	<5	6933	<5	12	<5	15060 ^{SV AB}	122 ^{AA}	<5	81	<5	ug/kg	TM36/PM12
Benzene [#]	80	9	74	<5	<5	<5	<50 ^{SV AB}	<25 ^{AA}	<5	<5	<5	ug/kg	TM36/PM12
Toluene [#]	9035	55	>>594706	111	2119	37	>>264509 ^{AB}	331 ^{AA}	11	513	<5	ug/kg	TM36/PM12
Ethylbenzene [#]	2042	18	>>114660	48	2602	15	>>398293 ^{AB}	387 ^{AA}	<5	207	<5	ug/kg	TM36/PM12
m/p-Xylene [#]	6909	83	>>493768	227	14522	115	>>1865857 ^{AB}	3653 ^{AA}	19	1008	<5	ug/kg	TM36/PM12
o-Xylene [#]	2412	11	>>84381	47	3177	40	>>361109 ^{AB}	1613 ^{AA}	<5	459	<5	ug/kg	TM36/PM12
Natural Moisture Content	42.3	25.4	13.9	10.8	11.0	12.9	13.6	14.4	10.8	12.5	<0.1	%	PM4/PM0
Total Organic Carbon [#]	4.94	1.49	0.09	0.46	0.28	0.28	0.09	1.16	0.25	2.24	<0.02	%	TM21/PM24
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand		None	PM13/PM0
Sample Colour	Dark Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Dark Brown		None	PM13/PM0
Other Items	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones		None	PM13/PM0

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1883

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	21-22	23-24	25-26	27-28	29-30	31-32	33-34	35-36	37-38	39-40	Please see attached notes for all abbreviations and acronyms		
Sample ID	HS11 CELL11 SS1	HS11 CELL11 SS2	HS11 CELL11 SS3	HS11 CELL11 SS4	HS11 CELL11 SS5	HS11 CELL11 SS6	HS11 CELL11 SS7	HS11 CELL11 SS8	HS11 CELL11 SS9	HS11 CELL11 SS10			
Depth	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	10/02/2021	10/02/2021	10/02/2021	10/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021			
Sample Type	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Sand	Sand	Sand	Sand			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	<0.1 ^{SV}	>>0.9	<0.5 ^{AA}	0.2	<0.5 ^{AA}	0.9	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	7.2	1.2 ^{SV}	>>70.3	177.0 ^{AA}	0.4	0.8 ^{AA}	2.5	0.2	0.4	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	13.0	6.0 ^{SV}	>>232.2	42.2 ^{AA}	0.8	7.0 ^{AA}	3.8	1.0	0.7	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	68.2	307.0	340.3	256.3	<0.2	29.9	51.2	<0.2	8.5	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	37	312	69	36	<4	24	97	<4	22	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	11	12	21	15	<7	27	72	<7	19	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	76	47	75	<7	151	44	<7	13	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	136	714	781	602	<19	240	271	<19	64	<19	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1	<0.1 ^{SV}	>><0.1	<0.5 ^{AA}	<0.1	<0.5 ^{AA}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	<0.1	2.2 ^{SV}	>>198.9	<0.5 ^{AA}	0.3	3.1 ^{AA}	1.0	<0.1	1.7	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	9.9	7.0 ^{SV}	>>686.2	3.8 ^{AA}	1.5	7.8 ^{AA}	2.8	0.3	1.2	0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	14.9	20.2	186.7	42.0	<0.2	15.6	12.9	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	15	13	16	14	<4	11	20	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	<7	<7	<7	24	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	<7	<7	<7	28	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	40	42	1088	60	<19	38	89	<19	<19	<19	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	176	756	1869	662	<38	278	360	<38	64	<38	<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	130	21 ^{SV}	2051	1326 ^{AA}	11	<25 ^{AA}	17	35	8	<5	<5	ug/kg	TM36/PM12
Benzene [#]	<5	<5 ^{SV}	26	<25 ^{AA}	<5	<25 ^{AA}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene [#]	74	2267 ^{SV}	>>198841	310 ^{AA}	324	3099 ^{AA}	968	49	1599	53	<5	ug/kg	TM36/PM12
Ethylbenzene [#]	2002	664 ^{SV}	>>105290	586 ^{AA}	180	1019 ^{AA}	319	45	211	14	<5	ug/kg	TM36/PM12
m/p-Xylene [#]	7619	4667 ^{SV}	>>472159	1881 ^{AA}	959	4930 ^{AA}	1866	191	845	99	<5	ug/kg	TM36/PM12
o-Xylene [#]	277	1644 ^{SV}	>>108804	1419 ^{AA}	337	1777 ^{AA}	604	67	193	22	<5	ug/kg	TM36/PM12
Natural Moisture Content	12.8	16.7	14.5	13.1	8.5	14.1	7.5	8.8	10.0	11.4	<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.15	0.29	0.08	0.21	0.13	1.31	0.34	0.19	0.23	0.05	<0.02	%	TM21/PM24
Sample Type	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Sand	Sand	Sand	Sand		None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Grey	Medium Brown	Dark Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown		None	PM13/PM0
Other Items	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones		None	PM13/PM0

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1883

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	41-42	43-44											
Sample ID	HS11 CELL11 SS11	HS11 CELL11 SS12											
Depth	2.00	2.00											
COC No / misc													
Containers	V J	V J											
Sample Date	11/02/2021	11/02/2021											
Sample Type	Clay	Sand											
Batch Number	1	1											
Date of Receipt	11/02/2021	11/02/2021											
Please see attached notes for all abbreviations and acronyms													
											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	0.1	<0.5 _{AA}									<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	0.9	7.9 _{AA}									<0.1	mg/kg	TM36/PM12
>C8-C10	9.5	230.2 _{AA}									<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	8.1	3105.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	15	821									<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	264									<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	1330									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	34	5758									<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	11.5	<0.5 _{AA}									<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.3	<0.5 _{AA}									<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	13.9	8.8 _{AA}									<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	290.9									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	147									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	73									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	458									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	26	978									<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	60	6736									<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	69	830 _{AA}									<5	ug/kg	TM36/PM12
Benzene [#]	11517	<25 _{AA}									<5	ug/kg	TM36/PM12
Toluene [#]	314	215 _{AA}									<5	ug/kg	TM36/PM12
Ethylbenzene [#]	495	615 _{AA}									<5	ug/kg	TM36/PM12
m/p-Xylene [#]	10952	2000 _{AA}									<5	ug/kg	TM36/PM12
o-Xylene [#]	2529	6158 _{AA}									<5	ug/kg	TM36/PM12
Natural Moisture Content	14.3	10.9									<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.28	0.28									<0.02	%	TM21/PM24
Sample Type	Clay	Sand										None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown										None	PM13/PM0
Other Items	Stones, sand	Stones										None	PM13/PM0

Element Materials Technology **Notification of Deviating Samples**

Notification of Deviating Samples

Client Name: Smith Grant LLP **Matrix :** Solid

Reference: R2174C

Location: Tetrosyl URL

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.

Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/1883

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Please include all sections of this report if it is reproduced

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

AB	x10 Dilution
----	--------------

EMT Job No: 21/1883

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 26th February, 2021
Your reference : R2174C
Our reference : Test Report 21/2151 Batch 1
Location : Tetrosyl URL
Date samples received : 16th February, 2021
Status : Final report
Issue : 1

Eight samples were received for analysis on 16th February, 2021 of which eight were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/2151

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16			Please see attached notes for all abbreviations and acronyms		
Sample ID	HS10 CELL 5 SS1	HS10 CELL 5 SS2	HS10 CELL 5 SS3	HS10 CELL 5 SS4	HS10 CELL 5 SS5	HS10 CELL 5 SS6	HS10 CELL 5 SS7	HS10 CELL 5 SS8					
Depth	2.00	1.50	1.50	1.50	2.00	1.50	2.50	3.00					
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J					
Sample Date	15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	16/02/2021	16/02/2021					
Sample Type	Clayey Sand	Clayey Sand	Clay	Clayey Sand	Clay	Clayey Sand	Clay	Clayey Sand					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	16/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021			LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1 ^{SV}	0.4	>>2.1 ^{AA}	>>1.8 ^{AA}	>>3.0 ^{AA}	<0.1 ^{SV}	<1.0 ^{AA}	<1.0 ^{SV AA}			<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	9.3 ^{SV}	21.3	>>954.1 ^{AA}	>>445.7 ^{AA}	>>1067.4 ^{AA}	0.3 ^{SV}	9.9 ^{AA}	5.0 ^{SV AA}			<0.1	mg/kg	TM36/PM12
>C8-C10	8.9 ^{SV}	25.8	>>160.2 ^{AA}	>>96.7 ^{AA}	>>264.8 ^{AA}	1.3 ^{SV}	12.0 ^{AA}	21.6 ^{SV AA}			<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	161.0	323.1	11.4	85.9	88.1	53.7	9.1	398.7			<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	146	526	<4	125	30	199	<4	764			<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	135	578	<7	159	30	295	<7	925			<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	45	257	<7	214	84	215	<7	481			<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	505	1732	1128	1128	1567	764	31	2595			<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1 ^{SV}	<0.1	>><1.0 ^{AA}	>><1.0 ^{AA}	>><1.0 ^{AA}	<0.1 ^{SV}	<1.0 ^{AA}	<1.0 ^{SV AA}			<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.2 ^{SV}	3.3	>>111.9 ^{AA}	>>289.9 ^{AA}	>>377.0 ^{AA}	<0.1 ^{SV}	5.6 ^{AA}	<1.0 ^{SV AA}			<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	8.8 ^{SV}	5.7	>>221.8 ^{AA}	>>243.4 ^{AA}	>>413.9 ^{AA}	0.2 ^{SV}	15.8 ^{AA}	1.8 ^{SV AA}			<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	62.8	112.0	8.8	54.7	39.9	19.0	8.1	108.5			<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	71	324	<4	71	16	115	<4	505			<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	87	387	<7	161	26	186	<7	605			<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	25	137	<7	489	<7	75	<7	245			<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	255	969	343	1309	873	395	30	1465			<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	760	2701	1471	2437	2440	1159	61	4060			<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	20 ^{SV}	186	2958 ^{AA}	1709 ^{AA}	4221 ^{AA}	<5 ^{SV}	193 ^{AA}	<50 ^{SV AA}			<5	ug/kg	TM36/PM12
Benzene [#]	<5 ^{SV}	<5	<50 ^{AA}	426 ^{AA}	<50 ^{AA}	<5 ^{SV}	<50 ^{AA}	<50 ^{SV AA}			<5	ug/kg	TM36/PM12
Toluene [#]	236 ^{SV}	3263	>>111838 ^{AA}	>>289984 ^{AA}	>>377010 ^{AA}	35 ^{SV}	5551 ^{AA}	168 ^{SV AA}			<5	ug/kg	TM36/PM12
Ethylbenzene [#]	1402 ^{SV}	1216	>>38931 ^{AA}	>>41050 ^{AA}	72758 ^{AA}	47 ^{SV}	3105 ^{AA}	557 ^{SV AA}			<5	ug/kg	TM36/PM12
m/p-Xylene [#]	6686 ^{SV}	3347	>>150847 ^{AA}	>>164155 ^{AA}	279966 ^{AA}	121 ^{SV}	10879 ^{AA}	880 ^{SV AA}			<5	ug/kg	TM36/PM12
o-Xylene [#]	728 ^{SV}	1097	>>31982 ^{AA}	>>38221 ^{AA}	61181 ^{AA}	44 ^{SV}	1861 ^{AA}	387 ^{SV AA}			<5	ug/kg	TM36/PM12
Natural Moisture Content	11.7	21.0	24.3	18.1	21.7	11.8	18.1	18.8			<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.15	0.47	2.19	2.57	1.97	0.17	1.17	0.91			<0.02	%	TM21/PM24
Sample Type	Clayey Sand	Clayey Sand	Clay	Clayey Sand	Clay	Clayey Sand	Clay	Clayey Sand			None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown			None		PM13/PM0
Other Items	stones	stones	stones	stones	stones	stones	stones	stones			None		PM13/PM0

Client Name: Smith Grant LLP

Reference: R2174C

Location: Tetrosyl URL

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/2151

SOILS

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It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

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REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x10 Dilution

EMT Job No: 21/2151

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 2nd March, 2021
Your reference : R2174C
Our reference : Test Report 21/2280 Batch 1
Location : Tetrosyl URL
Date samples received : 18th February, 2021
Status : Final report
Issue : 1

Seven samples were received for analysis on 18th February, 2021 of which seven were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/2280

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14				Please see attached notes for all abbreviations and acronyms		
Sample ID	HS11 CELL12 SS1	HS11 CELL12 SS2	HS11 CELL12 SS3	HS11 CELL12 SS4	HS13 CELL1 SS1	HS13 CELL1 SS2	HS13 CELL1 SS3						
Depth	2.00	2.00	3.50	3.50	1.50	1.50	1.50						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	17/02/2021	17/02/2021	17/02/2021	17/02/2021	18/02/2021	18/02/2021	18/02/2021						
Sample Type	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Silt	Clay	Clayey Sand						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	18/02/2021	18/02/2021	18/02/2021	18/02/2021	18/02/2021	18/02/2021	18/02/2021				LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	0.2	1.1	<0.1	1.7 ^{SV}	<0.1	0.8	0.4				<0.1	mg/kg	TM36/PM12
>C8-C10	1.3	7.3	0.2	13.3 ^{SV}	<0.1	0.8	2.2				<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	<0.2	17.0	<0.2	31.0	<0.2	20.4	432.2				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	<4	22	<4	19	<4	33	972				<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	<7	15	<7	22	1032				<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	<7	44	<7	88	397				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	<19	48	<19	124	<19	165	2836				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	<0.1	1.3	<0.1	1.5 ^{SV}	<0.1	0.2	0.4				<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	1.3	9.0	0.6	50.6 ^{SV}	<0.1	0.6	2.0				<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	<0.2	<0.2	19.4	<0.2	<0.2	149.8				<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	<4	19	<4	10	532				<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	46	<7	15	612				<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	381	<7	<7	306				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	<19	<19	<19	518	<19	26	1602				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	<38	48	<38	642	<38	191	4438				<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	<5	18	<5	52 ^{SV}	<5	7	7				<5	ug/kg	TM36/PM12
Benzene [#]	<5	<5	<5	69 ^{SV}	<5	<5	<5				<5	ug/kg	TM36/PM12
Toluene [#]	34	1358	17	1552 ^{SV}	16	201	420				<5	ug/kg	TM36/PM12
Ethylbenzene [#]	156	683	171	8245 ^{SV}	19	111	1128				<5	ug/kg	TM36/PM12
m/p-Xylene [#]	1012	6559	300	>>40318	51	333	750				<5	ug/kg	TM36/PM12
o-Xylene [#]	106	1796	55	2000 ^{SV}	12	100	131				<5	ug/kg	TM36/PM12
Natural Moisture Content	9.4	11.1	12.4	19.1	7.9	14.1	23.8				<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.12	0.32	0.54	0.93	0.21	0.68	1.75				<0.02	%	TM21/PM24
Sample Type	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Silt	Clay	Clayey Sand				None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None		PM13/PM0
Other Items	stones	stones	stones, sand	stones, sand	stones	stones	stones				None		PM13/PM0

Client Name: Smith Grant LLP

Reference: R2174C

Location: Tetrosyl URL

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/2280

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 21/2280

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GC/FID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

APPENDIX C

Instrument Calibration Certificates

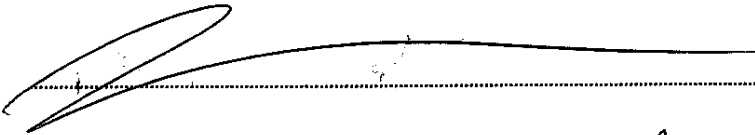
Certificate of Calibration

Customer: Smith Grant LLP
Instrument: MiniRAE 3000
Job: Service, test & re-calibration
Serial number: 592-915404
Fleet Number: -
Certificate no: 915404/161220
Next calibration due date: 16.12.2021
Tested on: 16.12.2020
Calibrated for: Isobutylene

<u>Applied Gas Concentration:</u>	<u>Cylinder Reference:</u>	<u>Initial Sensor Reading</u>	<u>Final Sensor Reading</u>	<u>Accuracy Limits</u>
Isobutylene 100ppm	WO263190-10	89ppm	100ppm	+/-5%

The instrument has been calibrated after re-zeroing and introducing span calibration gas, using gas that is traceable to national standards and has been prepared in accordance with BS EN ISO 6145-6:2017

Calibration Engineer: DANIEL JACQUES

Sign: 

Quality Assessed by (Print): R.L. BAINBRIDGE	Sign: 
---	---



CERTIFICATE OF CALIBRATION
Phocheck Tiger

CALIBRATION CERTIFICATE NO: 69743

ISSUED BY: SHAWCITY LIMITED
DATE: 01.12.20
APPROVED SIGNATORY: 
NAME: Ben Challenger
CUSTOMER: Shawcity Ltd -Exhibition equipment
INSTRUMENT: PhoCheck Tiger
SERIAL NUMBER: T-115610
CALIBRATION METHOD: CM03
AMBIENT CONDITIONS: 20°C ± 2°C and 50% (± 20%) RH

Prior to calibration the instrument was allowed to stabilise in the laboratory for at least 30 minutes.
The instrument was calibrated by exposing the sensor to known values of gas concentrations.
All gases were sampled through the complete probe and in line filter, where applicable.
The reference value is that generated by the certified source and the indicated value is that measured by the instrument.

CALIBRATION RESULTS

GAS	LOT No	REF. VALUE	INDICATED VALUE
Isobutylene	WO262581-2	100 ppm	100 ppm
Isobutylene	WO224476-2	1000 ppm	1000 ppm

COMMENTS:

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$.
This provides a level of confidence of uncertainty of approximately 95%.
The uncertainty of measurement is $\pm 2\%$
The results indicate that the instrument conforms to the applicable parts of the published specification.

HEALTH & SAFETY, OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING INSTRUMENTS

Tel: 01793 780622
www.shawcity.co.uk

Instrument House, 91-92 Shrivenham Hundred Business Park
Watchfield, Oxfordshire, SN6 8TY

Fax: 01793 784466
service@shawcity.co.uk

APPENDIX 3 - Laboratory Testing Results

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Scott Miller
Date : 8th November, 2021
Your reference : R2174C
Our reference : Test Report 21/16885 Batch 1
Location : Tetrosyl (URL)
Date samples received : 26th October, 2021
Status : Final Report
Issue : 1

Nine samples were received for analysis on 26th October, 2021 of which seven were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
 Reference: R2174C
 Location: Tetrosyl (URL)
 Contact: Scott Miller
 EMT Job No: 21/16885

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14				Please see attached notes for all abbreviations and acronyms		
Sample ID	HS10-C6-S1	HS10-C6-S2	HS10-C6-S3	HS10-C6-S4	HS10-C6-S5	HS10-C6-S6	HS10-C6-S7						
Depth	0.40	0.40	0.20-0.50	0.40-0.80	0.20-0.80	0.20-0.80	0.40-0.80						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	25/10/2021	25/10/2021	25/10/2021	25/10/2021	25/10/2021	25/10/2021	25/10/2021						
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clay						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	26/10/2021	26/10/2021	26/10/2021	26/10/2021	26/10/2021	26/10/2021	26/10/2021				LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	0.9 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1				<0.1	mg/kg	TM36/PM12
>C8-C10	8.2 ^{SV}	1.8	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1				<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	199.7	9.7	<0.2	<0.2	<0.2	3.9	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	1024	111	10	<4	<4	19	<4				<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	2105	265	31	<7	11	49	13				<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	1050	110	8	27	120	245	102				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	4388	498	49	27	131	317	115				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.2 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1				<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	3.3 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1				<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	64.5	2.4	<0.2	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	542	46	<4	<4	<4	<4	<4				<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	1185	146	<7	<7	<7	21	17				<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	637	69	<7	<7	57	305	159				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	2432	263	<19	<19	57	326	176				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	6820	761	49	<38	188	643	291				<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	<5 ^{SV}	<5	<5	<5	<5	<5 ^{SV}	<5				<5	ug/kg	TM36/PM12
Benzene [#]	<5 ^{SV}	<5	<5	<5	<5	<5 ^{SV}	<5				<5	ug/kg	TM36/PM12
Toluene [#]	243 ^{SV}	<5	<5	9	13	12 ^{SV}	14				<5	ug/kg	TM36/PM12
Ethylbenzene [#]	736 ^{SV}	22	<5	<5	8	7 ^{SV}	<5				<5	ug/kg	TM36/PM12
m/p-Xylene [#]	1819 ^{SV}	49	7	14	23	19 ^{SV}	15				<5	ug/kg	TM36/PM12
o-Xylene [#]	683 ^{SV}	35	<5	<5	8	8 ^{SV}	6				<5	ug/kg	TM36/PM12
Natural Moisture Content	9.3	9.8	12.1	14.1	14.3	9.3	16.0				<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.36	0.36	0.61	0.62	0.85	0.95	1.56				<0.02	%	TM21/PM24
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clay				None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None		PM13/PM0
Other Items	stones	stones	stones and brick fragment	stones and sand	stones, sand, brick fragment and glass	stones	stones and sand				None		PM13/PM0

Client Name: Smith Grant LLP

Reference: R2174C

Location: Tetrosyl (URL)

Contact: Scott Miller

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/16885

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 21/16885

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL



Attention : Ben Thomas
Date : 19th February, 2021
Your reference : R2174C
Our reference : Test Report 21/1773 Batch 1
Location : Tetrosyl URL
Date samples received : 9th February, 2021
Status : Final report
Issue : 1

Seventeen samples were received for analysis on 9th February, 2021 of which seventeen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied. □
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1773

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	HS11 CELL7 SS1	HS11 CELL7 SS2	HS11 CELL7 SS3	HS11 CELL7 SS4	HS11 CELL7 SS5	HS11 CELL7 SS6	HS11 CELL8 SS1	HS11 CELL8 SS2	HS11 CELL8 SS3	HS11 CELL8 SS4			
Depth	2.50	2.50	3.00	3.00	2.50	2.50	3.00	3.00	2.50	3.00			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021			
Sample Type	Clay	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clayey Sand	Clay			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021			
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1 ^{SV}	>>3.1 ^{AA}	>><1.0 ^{AA}	>><1.0 ^{AA}	<1.0 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<1.0 ^{AA}	<1.0 ^{AA}	<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	1.3 ^{SV}	>>166.9 ^{AA}	>>38.0 ^{AA}	>>60.1 ^{AA}	35.3 ^{AA}	0.5	0.2	12.1 ^{AA}	23.1 ^{AA}	19.4 ^{AA}	<0.1	mg/kg	TM36/PM12
>C8-C10	0.9 ^{SV}	>>224.7 ^{AA}	>>117.6 ^{AA}	>>117.4 ^{AA}	77.0 ^{AA}	1.7	0.7	24.7 ^{AA}	70.1 ^{AA}	39.6 ^{AA}	<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	80.5	217.6	150.3	301.7	119.8	10.9	<0.2	53.4	42.2	72.1	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	148	22	21	28	17	<4	<4	12	11	15	<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	128	12	9	13	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	119	36	<7	42	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	478	682	336	562	249	<19	<19	102	146	146	<19	mg/kg	TM5/PM8/PM16/PM21/PM25
Aromatics													
>C5-EC7 [#]	<0.1 ^{SV}	>><1.0 ^{AA}	>><1.0 ^{AA}	>><1.0 ^{AA}	<1.0 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<1.0 ^{AA}	<1.0 ^{AA}	<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	6.5 ^{SV}	>>516.8 ^{AA}	>>69.7 ^{AA}	>>138.8 ^{AA}	41.2 ^{AA}	0.5	1.3	22.0 ^{AA}	66.2 ^{AA}	25.8 ^{AA}	<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	2.2 ^{SV}	>>447.7 ^{AA}	>>193.6 ^{AA}	>>185.8 ^{AA}	97.0 ^{AA}	2.0	1.7	36.8 ^{AA}	113.0 ^{AA}	50.9 ^{AA}	<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	14.4	153.2	94.3	229.8	81.0	7.3	<0.2	30.7	30.7	44.7	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	81	6	<4	11	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	205	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	404	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	713	1124	358	565	219	<19	<19	90	210	121	<19	mg/kg	TM5/PM8/PM16/PM21/PM25
Total aliphatics and aromatics(C5-35)	1191	1806	694	1127	468	<38	<38	192	356	267	<38	mg/kg	TM5/PM8/PM16/PM21/PM25
MTBE [#]	<5 ^{SV}	3656 ^{AA}	683 ^{AA}	1010 ^{AA}	796 ^{AA}	<5	<5	173 ^{AA}	145 ^{AA}	354 ^{AA}	<5	ug/kg	TM36/PM12
Benzene [#]	17 ^{SV}	134 ^{AA}	<50 ^{AA}	<50 ^{AA}	<50 ^{AA}	<5	<5	<50 ^{AA}	<50 ^{AA}	<50 ^{AA}	<5	ug/kg	TM36/PM12
Toluene [#]	6471 ^{SV}	>>516861 ^{AA}	69651 ^{AA}	138704 ^{AA}	41114 ^{AA}	473	1212	22010 ^{AA}	66173 ^{AA}	25830 ^{AA}	<5	ug/kg	TM36/PM12
Ethylbenzene [#]	491 ^{SV}	90237 ^{AA}	33527 ^{AA}	36235 ^{AA}	16709 ^{AA}	287	325	6217 ^{AA}	19471 ^{AA}	8841 ^{AA}	<5	ug/kg	TM36/PM12
m/p-Xylene [#]	1395 ^{SV}	>>293942 ^{AA}	128802 ^{AA}	122276 ^{AA}	64784 ^{AA}	1382	1137	24313 ^{AA}	74444 ^{AA}	33701 ^{AA}	<5	ug/kg	TM36/PM12
o-Xylene [#]	269 ^{SV}	63583 ^{AA}	31199 ^{AA}	27233 ^{AA}	15507 ^{AA}	344	272	6231 ^{AA}	19089 ^{AA}	8404 ^{AA}	<5	ug/kg	TM36/PM12
Natural Moisture Content	22.7	17.7	14.4	16.9	13.4	18.5	14.2	17.1	13.1	18.9	<0.1	%	PM4/PM0
Total Organic Carbon [#]	39.21	0.50	0.63	0.36	0.59	0.22	0.96	0.69	0.29	0.74	<0.02	%	TM21/PM24
Sample Type	Clay	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Clay	Clayey Sand	Clayey Sand	Clay		None	PM13/PM0
Sample Colour	Dark Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown		None	PM13/PM0
Other Items	stones, clinker	stones	stones	stones	stones	stones, sand	stones	stones	stones	stones		None	PM13/PM0
									</				

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Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174C
Location: Tetrosyl URL
Contact: Ben Thomas
EMT Job No: 21/1773

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	21-22	23-24	25-26	27-28	29-30	31-32	33-34				Please see attached notes for all abbreviations and acronyms		
Sample ID	HS10 CELL3 SS1	HS10 CELL3 SS2	HS10 CELL3 SS3	HS10 CELL3 SS4	HS10 CELL3 SS5	HS10 CELL3 SS6	HS10 CELL3 SS7						
Depth	2.50	2.50	2.00	3.00	3.00	3.00	2.50						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021						
Sample Type	Clay	Clayey Sand	Clayey Sand	Clay	Clay	Clay	Clay						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021				LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 ^{#M}	<0.1	<0.1	>>6.7 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 ^{#M}	0.1	0.2	>>367.8 ^{AA}	<0.1	<0.1	10.4 ^{AA}	0.8				<0.1	mg/kg	TM36/PM12
>C8-C10	0.2	0.7	>>604.9 ^{AA}	0.1	0.1	18.2 ^{AA}	1.3				<0.1	mg/kg	TM36/PM12
>C10-C12 ^{#M}	<0.2	<0.2	272.1	6.1	<0.2	115.0	10.8				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 ^{#M}	<4	<4	28	14	<4	15	<4				<4	mg/kg	TM5/PM8/PM16
>C16-C21 ^{#M}	<7	<7	8	14	<7	11	<7				<7	mg/kg	TM5/PM8/PM16
>C21-C35 ^{#M}	<7	<7	37	22	<7	27	<7				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35	<19	<19	1325	56	<19	197	<19				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 [#]	<0.1	<0.1	>><1.0 ^{AA}	<0.1	<0.1	<1.0 ^{AA}	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 [#]	0.5	0.7	>>902.0 ^{AA}	0.2	<0.1	<1.0 ^{AA}	0.2				<0.1	mg/kg	TM36/PM12
>EC8-EC10 ^{#M}	0.5	1.4	>>1073.9 ^{AA}	0.2	0.2	6.7 ^{AA}	0.5				<0.1	mg/kg	TM36/PM12
>EC10-EC12 [#]	<0.2	<0.2	184.9	4.5	<0.2	37.8	7.2				<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 [#]	<4	<4	7	10	<4	15	<4				<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 [#]	<7	<7	<7	22	<7	21	<7				<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 [#]	<7	<7	<7	17	<7	20	<7				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 [#]	<19	<19	2168	54	<19	101	<19				<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35)	<38	<38	3493	110	<38	298	<38				<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE[#]	<5	7	9849 ^{AA}	<5	<5	<50 ^{AA}	<5				<5	ug/kg	TM36/PM12
Benzene[#]	17	12	253 ^{AA}	<5	<5	<50 ^{AA}	<5				<5	ug/kg	TM36/PM12
Toluene[#]	428	646	>>901982 ^{AA}	166	64	548 ^{AA}	184				<5	ug/kg	TM36/PM12
Ethylbenzene[#]	84	172	>>207804 ^{AA}	41	33	1540 ^{AA}	64				<5	ug/kg	TM36/PM12
m/p-Xylene[#]	337	1100	>>718095 ^{AA}	169	157	4565 ^{AA}	335				<5	ug/kg	TM36/PM12
o-Xylene[#]	74	130	>>147956 ^{AA}	43	46	652 ^{AA}	83				<5	ug/kg	TM36/PM12
Natural Moisture Content	19.9	16.4	15.3	9.0	10.6	18.1	16.6				<0.1	%	PM4/PM0
Total Organic Carbon [#]	0.29	0.26	0.34	1.83	0.17	0.50	0.51				<0.02	%	TM21/PM24
Sample Type	Clay	Clayey Sand	Clayey Sand	Clay	Clay	Clay	Clay				None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None		PM13/PM0
Other Items	stones	stones	stones	stones, sand	stones	stones	stones				None		PM13/PM0

Matrix : Solid

4 of 10

Client Name: Smith Grant LLP

Reference: R2174C

Location: Tetrosyl URL

Contact: Ben Thomas

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/1773

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x10 Dilution

Please include all sections of this report if it is reproduced

EMT Job No: 21/1773

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes

EMT Job No: 21/1773

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

APPENDIX 4 - Ground Gas Monitoring Results

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	TETROSYL BEVIS GREEN WORKS, BURY	ENGINEER:	Josh Turton
CLIENT:	URBAN REGEN LIMITED	DATE:	14/04/2022
JOB NO:	GRO-21459		

Pressure Trend:	Rising	Weather:	Overcast			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20.7	0.0	0.0	0.0	0.0	0.0		
Finish	20.7	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS01	0.0	0.0	0.00	0.0	0.0	0.0	0.2	0.0	8.9	17.6	0.0	0.0	0.0	0.0	0.0002	0.0000	1004	-	N	1.66
WS02	0.0	0.0	0.00	0.0	0.0	0.0	0.7	0.7	11.6	12.3	0.0	0.0	10.0	0.0	0.0007	0.0000	1004	-	N	NGW
WS03	0.0	0.0	0.00	27.1	20.7	542.0	1.9	1.5	0.3	4.4	0.0	0.0	0.0	0.0	0.0019	0.0271	1004	-	N	NGW
WS04	0.0	0.0	0.00	0.0	0.0	0.0	2.4	2.2	16.9	16.7	0.0	0.0	0.0	0.0	0.0024	0.0000	1004	-	N	NGW
WS05	0.0	0.0	0.00	22.1	15.9	442.0	4.7	3.7	0.3	5.1	0.0	0.0	0.0	0.0	0.0047	0.0221	1004	-	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.0	20.5	20.5	0.0	0.0	0.0	0.0	0.0001	0.0000	1004	-	N	NGW
WS07	0.0	0.0	0.00	1.1	1.2	22.0	0.4	0.4	0.1	2.1	0.0	0.0	0.0	0.0	0.0004	0.0011	1004	-	N	2.24
WS08	0.0	0.0	0.00	1.3	0.0	26.0	0.0	0.0	19.6	20.5	0.0	0.0	10.0	0.0	0.0000	0.0013	1004	-	N	0.28
WS09	0.0	0.0	0.00	1.3	0.4	26.0	6.7	4.7	0.0	5.8	0.0	0.0	0.0	0.0	0.0067	0.0013	1004	-	N	NGW
WS10	0.0	0.0	0.00	8.8	9.9	176.0	2.2	3.6	2.2	1.8	0.0	0.0	0.0	0.0	0.0022	0.0088	1004	-	N	NGW
WS11	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.5	20.7	0.0	0.0	0.0	0.0	0.0000	0.0000	1004	-	N	NGW
WS12	0.0	0.0	0.00	0.0	0.0	0.0	0.2	0.0	19.7	20.7	0.0	0.0	0.0	0.0	0.0002	0.0000	1004	-	N	NGW
WS13	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.0	20.6	20.8	0.0	0.0	0.0	0.0	0.0001	0.0000	1004	-	N	NGW

Notes:

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	TETROSYL BEVIS GREEN WORKS, BURY	ENGINEER:	Jack Perkins
CLIENT:	URBAN REGEN LIMITED	DATE:	21/04/2022
JOB NO:	GRO-21459		

Pressure Trend:	Steady	Weather:	Sunny			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20	0.0	0.0	0.0	0.0	0.0		
Finish	20	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS01	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0000	0.0000	996	-	N	2.01
WS02	0.0	0.0	0.00	0.0	0.0	0.0	0.8	0.7	11.9	15.3	0.0	0.0	0.0	0.0	0.0008	0.0000	996	-	N	NGW
WS03	0.0	0.0	0.00	22.9	21.7	458.0	1.6	1.3	1.3	1.8	0.0	0.0	0.0	0.0	0.0016	0.0229	997	-	N	NGW
WS04	0.0	0.0	0.00	0.0	1.9	0.0	1.6	0.0	16.7	19.7	0.0	0.0	0.0	0.0	0.0016	0.0000	996	-	N	NGW
WS05	0.0	0.0	0.00	14.2	13.4	284.0	3.9	3.7	2.5	3.2	0.0	0.0	0.0	0.0	0.0039	0.0142	994	-	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0000	0.0000	995	-	N	NGW
WS07	0.0	0.0	0.00	1.6	1.7	32.0	0.6	0.5	1.7	1.8	0.0	0.0	0.0	0.0	0.0006	0.0016	995	-	N	2.60
WS08	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.0	19.0	19.4	0.0	0.0	0.0	0.0	0.0003	0.0000	996	-	N	1.10
WS09	0.0	0.0	0.00	1.4	1.8	28.0	6.8	4.9	3.5	2.2	0.0	0.0	0.0	0.0	0.0068	0.0014	995	-	N	NGW
WS10	0.0	0.0	0.00	15.4	15.1	308.0	5.4	3.5	0.3	1.4	0.0	0.0	0.0	0.0	0.0054	0.0154	995	-	N	NGW
WS11	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	19.9	19.9	0.0	0.0	0.0	0.0	0.0000	0.0000	995	-	N	NGW
WS12	0.0	0.0	0.00	0.0	0.0	0.0	1.2	1.0	12.6	11.8	0.0	0.0	0.0	0.0	0.0012	0.0000	994	-	N	1.78
WS13	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.1	19.8	20.0	0.0	0.0	0.0	0.0	0.0001	0.0000	995	-	N	NGW

Notes:

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	TETROSYL BEVIS GREEN WORKS, BURY	ENGINEER:	Jack Perkins
CLIENT:	URBAN REGEN LIMITED	DATE:	29/04/2022
JOB NO:	GRO-21459		

Pressure Trend:	Falling	Weather:	Sunny			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20.1	0.0	0.0	0.0	0.0	0.0		
Finish	20.1	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS01	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.1	20.5	0.0	0.0	0.0	0.0	0.0000	0.0000	1011	-	N	NGW
WS02	0.0	0.0	0.00	0.0	0.0	0.0	0.7	0.6	18.3	18.9	0.0	0.0	0.0	0.0	0.0007	0.0000	1011	-	N	NGW
WS03	0.0	0.0	0.00	18.5	19.8	370.0	1.9	1.6	1.9	1.5	0.0	0.0	0.0	0.0	0.0019	0.0185	1011	-	N	NGW
WS04	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.1	20.9	20.9	0.0	0.0	0.0	0.0	0.0001	0.0000	1011	-	N	NGW
WS05	0.0	0.0	0.00	12.4	10.3	248.0	3.9	2.9	2.8	2.7	0.0	0.0	0.0	0.0	0.0039	0.0124	1012	-	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.6	19.9	18.6	0.0	0.0	0.0	0.0	0.0000	0.0000	1012	-	N	NGW
WS07	0.0	0.0	0.00	1.0	1.1	20.0	1.0	0.9	3.2	3.7	0.0	0.0	0.0	0.0	0.0010	0.0010	1011	-	N	NGW
WS08	0.0	0.0	0.00	0.0	0.0	0.0	0.6	0.0	19.3	20.1	0.0	0.0	0.0	0.0	0.0006	0.0000	1011	-	N	1.48
WS09	0.0	0.0	0.00	0.0	0.0	0.0	8.4	8.1	1.8	1.1	0.0	0.0	0.0	0.0	0.0084	0.0000	1011	-	N	NGW
WS10	0.0	0.0	0.00	14.7	15.4	294.0	8.2	8.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0082	0.0147	1012	-	N	NGW
WS11	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	19.8	19.8	0.0	0.0	0.0	0.0	0.0000	0.0000	1012	-	N	NGW
WS12	0.0	0.0	0.00	0.0	0.0	0.0	2.6	2.4	6.9	6.3	0.0	0.0	0.0	0.0	0.0026	0.0000	1013	-	N	1.87
WS13	0.0	0.0	0.00	0.0	0.0	0.0	0.4	1.2	19.0	16.9	0.0	0.0	0.0	0.0	0.0004	0.0000	1011	-	N	NGW

Notes:

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	TETROSYL BEVIS GREEN WORKS, BURY	ENGINEER:	Josh Turton
CLIENT:	URBAN REGEN LIMITED	DATE:	09/05/2022
JOB NO:	GRO-21459		

Pressure Trend:	Falling	Weather:	Overcast			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20.6	0.0	0.0		0.0	0.0		
Finish	20.5	0.0	0.0		0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS01	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.5	19.3	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	0.0	N	NGW
WS02	0.4	0.4	0.02	0.0	0.0	0.0	1.0	0.7	11.3	14.6	0.0	0.0	0.0	0.0	0.0040	0.0000	1001	0.5	N	NGW
WS03	0.3	0.3	0.01	21.1	19.8	422.0	1.7	1.6	0.4	1.7	0.0	0.0	0.0	0.0	0.0051	0.0633	1001	1.3	N	NGW
WS04	0.0	0.0	0.00	0.0	0.0	0.0	2.3	2.2	17.9	18.4	0.0	0.0	0.0	0.0	0.0023	0.0000	1000	0.3	N	NGW
WS05	0.0	0.0	0.00	15.6	1.2	312.0	4.4	0.8	0.7	4.4	0.0	0.0	0.0	0.0	0.0044	0.0156	999	0.0	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.5	20.3	0.0	0.0	0.0	0.0	0.0000	0.0000	999	0.0	N	NGW
WS07	0.0	0.0	0.00	2.1	1.8	42.0	1.2	1.6	0.3	3.2	0.0	0.0	0.0	0.0	0.0012	0.0021	999	138.2	N	NGW
WS08	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.4	20.6	20.1	0.0	0.0	0.0	0.0	0.0001	0.0000	999	64.0	N	1.26
WS09	0.0	0.0	0.00	0.0	0.0	0.0	7.9	7.2	2.4	1.8	0.0	0.0	0.0	0.0	0.0079	0.0000	999	8.2	N	NGW
WS10	0.0	0.0	0.00	15.3	21.2	306.0	5.4	7.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0054	0.0153	999	274.5	N	NGW
WS11	0.0	0.0	0.00	0.7	4.6	14.0	0.0	0.0	18.0	13.0	0.0	0.0	10.0	17.0	0.0000	0.0007	999	335.2	N	NGW
WS12	0.0	0.0	0.00	0.0	0.0	0.0	1.6	1.6	13.8	13.8	0.0	0.0	0.0	0.0	0.0016	0.0000	999	10.4	N	NGW
WS13	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.3	20.2	20.3	0.0	0.0	0.0	0.0	0.0003	0.0000	999	11.7	N	NGW

Notes:

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	TETROSYL BEVIS GREEN WORKS, BURY	ENGINEER:	William Sandiford-Mitchell
CLIENT:	URBAN REGEN LIMITED	DATE:	15/07/2022
JOB NO:	GRO-21459		

Pressure Trend:	Steady	Weather:	Overcast			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20.8	0.0	0.0	0.0	0.0	0.0		
Finish	20.8	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS01	0.0	0.0	0.00	2.3	2.2	46.0	2.4	2.4	4.6	4.5	0.0	0.0	0.0	0.0	0.0024	0.0023	1001	-	N	1.71
WS02	0.0	0.0	0.00	17.7	15.5	354.0	3.5	3.1	8.2	9.1	0.0	0.0	0.0	0.0	0.0035	0.0177	1001	-	N	NGW
WS03	0.0	0.0	0.00	0.0	0.0	0.0	0.4	0.5	20.4	20.1	0.0	0.0	0.0	0.0	0.0004	0.0000	1001	-	N	NGW
WS04	0.0	0.0	0.00	0.0	0.0	0.0	0.6	0.6	19.8	20.0	0.0	0.0	0.0	0.0	0.0006	0.0000	1001	-	N	NGW
WS05	0.0	0.0	0.00	0.0	0.0	0.0	0.2	0.3	21.0	20.5	0.0	0.0	0.0	0.0	0.0002	0.0000	1001	-	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.6	20.9	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	-	N	NGW
WS07	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.3	20.1	20.2	0.0	0.0	10.0	0.0	0.0003	0.0000	1001	-	N	2.64
WS08	0.0	0.0	0.00	0.0	0.0	0.0	0.6	0.6	19.3	18.5	0.0	0.0	0.0	0.0	0.0006	0.0000	1000	-	N	1.01
WS09	0.0	0.0	0.00	0.0	0.0	0.0	0.2	0.1	20.8	20.9	0.0	0.0	0.0	0.0	0.0002	0.0000	1000	-	N	NGW
WS10	0.0	0.0	0.00	0.0	0.0	0.0	0.6	0.6	20.0	20.0	0.0	0.0	0.0	0.0	0.0006	0.0000	1001	-	N	NGW
WS11	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	21.2	21.2	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	-	N	NGW
WS12	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	21.1	20.9	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	-	N	1.81
WS13	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.3	20.8	20.9	0.0	0.0	0.0	0.0	0.0003	0.0000	1001	-	N	NGW

Notes:

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	TETROSYL BEVIS GREEN WORKS, BURY	ENGINEER:	William Sandiford-Mitchell
CLIENT:	URBAN REGEN LIMITED	DATE:	29/07/2022
JOB NO:	GRO-21459		

Pressure Trend:	Steady	Weather:	Overcast			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	21.2	0.0	0.0	0.0	0.0	0.0		
Finish	21.2	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
WS01	0.0	0.0	0.00	2.2	2.2	44.0	2.4	2.4	4.5	4.4	0.0	0.0	0.0	0.0	0.0024	0.0022	1001	-	N	NGW
WS02	0.0	0.0	0.00	14.9	14.3	298.0	2.9	2.8	9.6	10.1	0.0	0.0	0.0	0.0	0.0029	0.0149	1001	-	N	NGW
WS03	0.0	0.0	0.00	0.0	0.0	0.0	1.1	1.1	17.6	17.9	0.0	0.0	26.0	0.0	0.0011	0.0000	1001	-	N	NGW
WS04	0.0	0.0	0.00	0.0	0.0	0.0	0.7	0.7	19.6	20.0	0.0	0.0	0.0	0.0	0.0007	0.0000	1002	-	N	NGW
WS05	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.1	20.9	20.9	0.0	0.0	0.0	0.0	0.0001	0.0000	1001	-	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	-	N	NGW
WS07	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.3	20.2	20.2	0.0	0.0	0.0	0.0	0.0003	0.0000	1001	-	N	NGW
WS08	0.0	0.0	0.00	0.0	0.0	0.0	0.6	0.6	19.0	18.9	0.0	0.0	0.0	0.0	0.0006	0.0000	1000	-	N	NGW
WS09	0.0	0.0	0.00	0.0	0.0	0.0	0.2	0.2	20.6	20.8	0.0	0.0	0.0	0.0	0.0002	0.0000	1000	-	N	NGW
WS10	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.4	21.0	20.4	0.0	0.0	0.0	0.0	0.0001	0.0000	1000	-	N	NGW
WS11	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	21.2	21.4	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	-	N	NGW
WS12	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0	0.0000	0.0000	1001	-	N	1.94
WS13	0.0	0.0	0.00	0.0	0.0	0.0	0.5	0.5	20.2	20.1	0.0	0.0	0.0	0.0	0.0005	0.0000	1001	-	N	NGW

Notes:

SITE NAME:		TETROSYL BEVIS GREEN WORKS, BURY				ENGINEER:		Jack Perkins				
CLIENT:		URBAN REGEN LIMITED				DATE:		06/10/2022				
JOB NO:		GRO-21459										
Pressure Trend:		Falling	Weather:	Raining			Equipment:		GFM 436			
Ambient:		O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)					
Start		20.6	0.0	0.0	0.0	0.0	0.0					
Finish		20.6	0.0	0.0	0.0	0.0	0.0					

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
WS514	0.0	0.0	0.00	4.6	3.7	92.0	0.0	0.0	1.8	6.1	0.0	0.0	0.0	0.0	0.0000	0.0046	1000	-	N	N/A	N/A	1.79
WS515	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.7	20.7	0.0	0.0	0.0	0.0	0.0000	0.0000	1000	-	N	N/A	N/A	NGW
WS516	0.0	0.0	0.00	0.0	0.0	0.0	0.5	0.3	17.1	18.6	0.0	0.0	0.0	0.0	0.0005	0.0000	1000	-	N	N/A	N/A	1.00
WS516	0.0	0.0	0.00	0.0	0.0	0.0	3.2	2.6	8.8	10.8	0.0	0.0	0.0	0.0	0.0032	0.0000	1000	-	N	N/A	N/A	1.30
Notes:																						

SITE NAME:		TETROSYL BEVIS GREEN WORKS, BURY				ENGINEER:		William Sandiford Mitchell				
CLIENT:		URBAN REGEN LIMITED				DATE:		18/10/2022				
JOB NO:		GRO-21459										
Pressure Trend:		Steady	Weather:	Overcast			Equipment:		GFM 436			
Ambient:		O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)					
Start		20.9	0.0	0.0	0.0	0.0	0.0					
Finish		20.9	0.0	0.0	0.0	0.0	0.0					

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
WS514	0.0	0.0	0.00	10.8	9.7	216.0	0.0	0.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0000	0.0108	1011	-	N	N/A	N/A	2.07
WS515	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.0	19.6	20.3	0.0	0.0	0.0	0.0	0.0001	0.0000	1009	-	N	N/A	N/A	NGW
WS516	0.0	0.0	0.00	0.0	0.0	0.0	1.2	1.2	15.8	15.9	0.0	0.0	0.0	0.0	0.0012	0.0000	1010	-	N	N/A	N/A	1.28
WS516	0.0	0.0	0.00	0.0	0.0	0.0	4.5	4.4	2.2	2.9	0.0	0.0	0.0	0.0	0.0045	0.0000	1009	-	N	N/A	N/A	1.62
Notes:																						

SITE NAME:		TETROSYL BEVIS GREEN WORKS, BURY				ENGINEER:		Jack Perkins				
CLIENT:		URBAN REGEN LIMITED				DATE:		02/11/2022				
JOB NO:		GRO-21459										
Pressure Trend:		Falling	Weather:	Overcast			Equipment:		GFM 436			
Ambient:		O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)					
Start		20.3	0.0	0.0	0.0	0.0	0.0					
Finish		20.3	0.0	0.0	0.0	0.0	0.0					

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
WS514	0.0	0.0	0.00	13.0	8.6	260.0	0.0	0.0	3.1	8.9	0.0	0.0	0.0	0.0	0.0000	0.0130	990	28.7	N	N/A	N/A	1.32
WS515	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.1	20.1	0.0	0.0	0.0	0.0	0.0000	0.0000	989	1.2	N	N/A	N/A	NGW
WS516	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.1	19.1	19.1	0.0	0.0	0.0	0.0	0.0001	0.0000	988	9.1	N	N/A	N/A	0.99
WS517	0.0	0.0	0.00	0.0	0.0	0.0	4.3	3.6	5.7	7.9	0.0	0.0	0.0	0.0	0.0043	0.0000	989	0.1	N	N/A	N/A	1.54
Notes:																						

SITE NAME:		TETROSYL BEVIS GREEN WORKS, BURY				ENGINEER:		William Sandiford Mitchell				
CLIENT:		URBAN REGEN LIMITED				DATE:		14/11/2022				
JOB NO:		GRO-21459										
Pressure Trend:		Falling	Weather:	Overcast			Equipment:		GFM 436			
Ambient:		O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)					
Start		20.6	0.0	0.0	0.0	0.0	0.0					
Finish		20.6	0.0	0.0	0.0	0.0	0.0					

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
WS514	0.0	0.0	0.00	7.8	6.7	156.0	0.0	0.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0000	0.0078	1003	-	N	N/A	N/A	2.04
WS515	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	19.6	20.3	0.0	0.0	0.0	0.0	0.0000	0.0000	1002	-	N	N/A	N/A	NGW
WS516	0.0	0.0	0.00	0.0	0.0	0.0	0.7	0.6	17.3	18.7	0.0	0.0	0.0	0.0	0.0007	0.0000	1002	-	N	N/A	N/A	1.03
WS516	0.0	0.0	0.00	0.0	0.0	0.0	3.5	3.3	5.8	6.9	0.0	0.0	0.0	0.0	0.0035	0.0000	1002	-	N	N/A	N/A	1.61
Notes:																						

GROUNDTECH
CONSULTING

SITE NAME:		TETROSYL BEVIS GREEN WORKS, BURY				ENGINEER:		William Sandiford Mitchell				
CLIENT:		URBAN REGEN LIMITED				DATE:		24/11/2022				
JOB NO:		GRO-21459										
Pressure Trend:		Steady	Weather:	Overcast			Equipment:		GFM 436			
Ambient:		O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)					
Start		20.9	0.0	0.0	0.0	0.0	0.0					
Finish		20.9	0.0	0.0	0.0	0.0	0.0					

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
WS514	0.0	0.0	0.00	8.4	7.9	168.0	0.0	0.0	1.2	2.5	0.0	0.0	0.0	0.0	0.0000	0.0084	999	-	N	N/A	N/A	2.59
WS515	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.0	19.2	20.1	0.0	0.0	0.0	0.0	0.0003	0.0000	999	-	N	N/A	N/A	NGW
WS516	0.0	0.0	0.00	0.0	0.0	0.0	0.8	0.6	19.3	19.8	0.0	0.0	0.0	0.0	0.0008	0.0000	999	-	N	N/A	N/A	1.01
WS516	0.0	0.0	0.00	0.0	0.0	0.0	5.1	4.2	5.8	6.4	0.0	0.0	0.0	0.0	0.0051	0.0000	998	-	N	N/A	N/A	1.59
Notes:																						

APPENDIX 5 – VOC Testing Results

Groundtech Consulting Limited
PO Box 499
Manchester
M28 8EE



Attention : Luke Harrison
Date : 29th April, 2022
Your reference : GRO-21459
Our reference : Test Report 22/6236 Batch 1
Location : Tetrosyl
Date samples received : 14th April, 2022
Status : Final Report
Issue : 1

Fourteen samples were received for analysis on 14th April, 2022 of which thirteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Simon Gomery BSc

Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS01
Depth:
EMT Job No: 22/6236
EMT Sample No: 1
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 2409 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		49458.7 _{AA}	244573.9 _{AA}	<125.0	<2.5	<620.0	<12.4
74-87-3	50.49	Chloromethane		3.4	7	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		20.8	116.9	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		2.5	13.6	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		56.9	181.8	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		4.7	25.3	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		5.3	20	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		3.3	22.4	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		2.9	12.6	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		7.2	31.3	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		2.7	11.7	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		3.8	16.2	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		10	49.2	<1.5	<1.5	<7.4	<7.4

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Canister Serial number: QT 2409 0.45
Sample Train Serial number: -

MDL	Method Detection Limit
RL	Reporting Limit
#	ISO 17025 (UKAS) accredited

QF-PM 3.1.13 v6 Please include all sections of this report if it is reproduced 3 of 33

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS02
Depth:
EMT Job No: 22/6236
EMT Sample No: 2
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 831 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		4450.5 _{AA}	22007.8 _{AA}	<125.0	<2.5	<620.0	<12.4
74-87-3	50.49	Chloromethane		1.9	3.9	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		3.3	18.5	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		2	8	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		8	25.6	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		5.3	28.5	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		12.5	47.1	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		8.8	38.2	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		22.9	99.4	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		8.5	36.9	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		12	51.1	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		2.8	13.8	<1.5	<1.5	<7.4	<7.4

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Canister Serial number: QT 831 0.45
Sample Train Serial number: -

MDL	Method Detection Limit
RL	Reporting Limit
#	ISO 17025 (UKAS) accredited

QF-PM 3.1.13 v6 Please include all sections of this report if it is reproduced 5 of 33

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS03
Depth:
EMT Job No: 22/6236
EMT Sample No: 3
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 1543 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		20.3	51.9	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)	>>	75489.1 _{AB}	373294.5 _{AB}	<250.0	<2.5	<1240.0	<12.4
74-87-3	50.49	Chloromethane		5.1	10.5	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		2.4	6.3	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		4.5	25.3	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		5	20	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		19.2	61.3	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		4.9	26.3	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		55.9	210.6	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		25.2	109.4	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		33.3	144.6	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		16.9	73.4	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		14.4	61.3	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		5.2	25.6	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS03
Depth:
EMT Job No: 22/6236
EMT Sample No: 3
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 1543 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		2.4	11.8	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		5	24.6	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		2.3	11.3	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		2.4	13.2	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		1.7	9.3	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		75715.2	374191.2				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		93%		0%	0%		
	81	Aliphatic >C4-C6		4076	13503	<10	<10	<33	<33
	100	Aliphatic >C6-C8		7432	30396	<10	<10	<41	<41
	130	Aliphatic >C8-C10		5964	31709	<10	<10	<53	<53
	160	Aliphatic >C10-C12		1128	7381	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		19.2	61.3	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		55.9	210.6	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		44	216	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		87	463	<10	<10	<53	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS04
Depth:
EMT Job No: 22/6236
EMT Sample No: 4
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 586 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		8047.7 _{AA}	39796.0 _{AA}	<125.0	<2.5	<620.0	<12.4
74-87-3	50.49	Chloromethane		3.4	7	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		2.2	12.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		17.2	54.9	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		3.3	17.7	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		16.7	62.9	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		7.7	33.4	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		18	78.2	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		7.5	32.6	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		15.3	65.2	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		4.4	21.6	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS04
Depth:
EMT Job No: 22/6236
EMT Sample No: 4
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 586 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		2.8	13.8	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		1.5	<7.4	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		8149.2	40195.7				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		96%		0%	0%		
	81	Aliphatic >C4-C6		13138 _{AA}	43523 _{AA}	<500	<10	<1650	<33
	100	Aliphatic >C6-C8		8408 _{AA}	34387 _{AA}	<500	<10	<2050	<41
	130	Aliphatic >C8-C10		<500 _{AA}	<2650 _{AA}	<500	<10	<2650	<53
	160	Aliphatic >C10-C12		<500 _{AA}	<3250 _{AA}	<500	<10	<3250	<65
	78.11	Aromatic >C5-EC7 (Benzene)		17.2	54.9	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		16.7	62.9	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		3980 _{AA}	19533 _{AA}	<500	<10	<2450	<49
	130	Aromatic >EC10-EC12		<500 _{AA}	<2650 _{AA}	<500	<10	<2650	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS05
Depth:
EMT Job No: 22/6236
EMT Sample No: 5
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 2420 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		32.9	84.1	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)	>>	68623.0 _{AB}	339341.6 _{AB}	<250.0	<2.5	<1240.0	<12.4
74-87-3	50.49	Chloromethane		4	8.3	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		2.9	16.3	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		3.4	13.5	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		12	48	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		22.7	72.5	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		4	21.5	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		39.8	150	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		81.7	354.7	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		61.9	268.8	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		13.8	59.9	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		16.1	68.6	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		5.5	27	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS05
Depth:
EMT Job No: 22/6236
EMT Sample No: 5
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 2420 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		2.2	10.8	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		5.8	28.5	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		2	9.8	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		1.9	10.4	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		23.1	126.8	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		68958.7	340721.1				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		92%		0%	0%		
	81	Aliphatic >C4-C6		2109	6987	<10	<10	<33	<33
	100	Aliphatic >C6-C8		3558	14552	<10	<10	<41	<41
	130	Aliphatic >C8-C10		9755	51865	<10	<10	<53	<53
	160	Aliphatic >C10-C12		1891	12374	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		22.7	72.5	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		39.8	150	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		432	2120	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		238	1265	<10	<10	<53	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS06
Depth:
EMT Job No: 22/6236
EMT Sample No: 6
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 1186 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		4869.4 _{AA}	24079.2 _{AA}	<125.0	<2.5	<620.0	<12.4
74-87-3	50.49	Chloromethane		5.5	11.4	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		28.3	90.4	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		<1.5	<8.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		8.6	32.4	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		14.4	62.5	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		18.2	79	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		5.3	23	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		11.1	47.3	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		8.9	43.7	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS06
Depth:
EMT Job No: 22/6236
EMT Sample No: 6
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 1186 0.45
Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		2.3	11.3	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		8.2	45	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		4980.2	24525.2				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		96%		0%	0%		
	81	Aliphatic >C4-C6		14417 _{AA}	47760 _{AA}	<500	<10	<1650	<33
	100	Aliphatic >C6-C8		1802 _{AA}	7370 _{AA}	<500	<10	<2050	<41
	130	Aliphatic >C8-C10		23795 _{AA}	126513 _{AA}	<500	<10	<2650	<53
	160	Aliphatic >C10-C12		3134 _{AA}	20508 _{AA}	<500	<10	<3250	<65
	78.11	Aromatic >C5-EC7 (Benzene)		28.3	90.4	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		8.6	32.4	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		7721 _{AA}	37893 _{AA}	<500	<10	<2450	<49
	130	Aromatic >EC10-EC12		<500 _{AA}	<2650 _{AA}	<500	<10	<2650	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS07
Depth:
EMT Job No: 22/6236
EMT Sample No: 7
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 814 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		156.2	399.3	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		91066.0 _{AB}	450322.5 _{AB}	<250.0	<2.5	<1240.0	<12.4
74-87-3	50.49	Chloromethane		4.3	8.9	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		4	22.5	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		2.1	8.3	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		2.7	10.7	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		5.2	21	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		4	16	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		34.9	111.5	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		<1.5	<8.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		28.3	130.8	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		25.7	96.8	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		5.6	38	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		66.4	288.3	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		137.6	597.5	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		11.5	49.9	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		13.8	58.8	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		19.7	96.8	<1.5	<1.5	<7.4	<7.4

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Canister Serial number: QT 814 0.45
Sample Train Serial number: -

MDL	Method Detection Limit
RL	Reporting Limit
#	ISO 17025 (UKAS) accredited

QF-PM 3.1.13 v6 Please include all sections of this report if it is reproduced 15 of 33

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS08
Depth:
EMT Job No: 22/6236
EMT Sample No: 8
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 576 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
75-01-4	62.5	# Vinyl Chloride		46	117.6	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		56956.2 _{AB}	281649.1 _{AB}	<250.0	<2.5	<1240.0	<12.4
74-87-3	50.49	Chloromethane		12	24.8	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		1.6	4.2	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		29.9	168	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		8.5	33.7	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		28.2	98	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		15.9	64.4	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		9	36	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		144.9	790.7	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		7	28.3	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		290.4	927.7	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		4.3	23.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		20116.9 _{AA}	75799.7 _{AA}	<75.0	<1.5	<285.0	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		175	954.8	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		11.3	76.6	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		667.4	2897.7	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		1303.2	5658.7	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		207.1	899.3	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		24.6	104.8	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		14	68.8	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 26 Apr 2022

Sample ID: WS08
Depth:
EMT Job No: 22/6236
EMT Sample No: 8
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 576 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		10.8	53.1	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		12.5	61.4	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		9	44.2	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		1.8	9.9	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		3.3	18.1	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		1.16	6.1	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		80111.96	370618.8				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		99%		0%	0%		
	81	Aliphatic >C4-C6		2931440 _{AA}	9711162 _{AA}	<500	<10	<1650	<33
	100	Aliphatic >C6-C8		11281383 _{AA}	46138927 _{AA}	<500	<10	<2050	<41
	130	Aliphatic >C8-C10		17247 _{AA}	91698 _{AA}	<500	<10	<2650	<53
	160	Aliphatic >C10-C12		2281 _{AA}	14926 _{AA}	<500	<10	<3250	<65
	78.11	Aromatic >C5-EC7 (Benzene)		290.4	927.7	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		20116.9 _{AA}	75799.7 _{AA}	<75.0	<1.5	<285.0	<5.7
	120	Aromatic >EC8-EC10		132819 _{AA}	651848 _{AA}	<500	<10	<2450	<49
	130	Aromatic >EC10-EC12		<500 _{AA}	<2650 _{AA}	<500	<10	<2650	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS09
Depth:
EMT Job No: 22/6236
EMT Sample No: 9
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: SQT 650 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		182.6	466.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		3510.9 _{AA}	17361.4 _{AA}	<125.0	<2.5	<620.0	<12.4
74-87-3	50.49	Chloromethane		5.7	11.8	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		5.9	15.6	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		3	16.9	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		2.5	9.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		6.5	26.3	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		4	16	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		7.6	41.5	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		3.4	13.8	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		139.7	446.3	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		<1.5	<8.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		12397.1 _{AA}	46711.8 _{AA}	<75.0	<1.5	<285.0	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		140.1	764.4	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		10.3	69.9	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		7.4	34.1	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		1251.8 _{AA}	5435.0 _{AA}	<75.0	<1.5	<325.0	<6.5
179601-23-1	106.17	# m/p-Xylene		6945.9 _{AA}	30160.3 _{AA}	<75.0	<1.5	<325.0	<6.5
95-47-6	106.17	# o-Xylene		1318.6 _{AA}	5725.6 _{AA}	<75.0	<1.5	<325.0	<6.5
100-42-5	104.14	# Styrene		20.4	86.9	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		47.2	232	<1.5	<1.5	<7.4	<7.4

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Canister Serial number: SQT 650 0.45
Sample Train Serial number: -

MDL	Method Detection Limit
RL	Reporting Limit
#	ISO 17025 (UKAS) accredited

QF-PM 3.1.13 v6 Please include all sections of this report if it is reproduced 19 of 33

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS10
Depth:
EMT Job No: 22/6236
EMT Sample No: 10
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 2402 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
75-01-4	62.5	# Vinyl Chloride		96.4	246.4	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		560.9	2773.7	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		4	8.3	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		33.7	88.9	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		5	28.1	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		2.1	8.3	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		61.1	212	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		9.4	37.3	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		51.7	209.3	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		66	262	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		1.6	8.7	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		22.7	91.9	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		791.6	2528.8	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		192.1	1032.4	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		73873.0 _{AB}	278350.5 _{AB}	<150.0	<1.5	<570.0	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		252.9	1379.8	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		28.1	190.6	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		2286.9 _{AA}	9929.2 _{AA}	<75.0	<1.5	<325.0	<6.5
179601-23-1	106.17	# m/p-Xylene		8967.1 _{AA}	38936.7 _{AA}	<75.0	<1.5	<325.0	<6.5
95-47-6	106.17	# o-Xylene		1454.7 _{AA}	6316.6 _{AA}	<75.0	<1.5	<325.0	<6.5
100-42-5	104.14	# Styrene		21.6	92	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		69.9	343.6	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS10
Depth:
EMT Job No: 22/6236
EMT Sample No: 10
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 2402 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		56.7	278.7	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		158.9	781.1	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		115.9	569.7	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		13.6	74.7	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		13.7	75.2	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		1.63	8.5	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		50.2	181	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		89263.13	345044				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		106%		0%	0%		
	81	Aliphatic >C4-C6		9260	30676	<10	<10	<33	<33
	100	Aliphatic >C6-C8		57098	233521	<10	<10	<41	<41
	130	Aliphatic >C8-C10		14866	79039	<10	<10	<53	<53
	160	Aliphatic >C10-C12		2383	15594	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		791.6	2528.8	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		73873	278350.5	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		6040	29643	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		560	2977	<10	<10	<53	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS11
Depth:
EMT Job No: 22/6236
EMT Sample No: 11
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 792 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
75-01-4	62.5	# Vinyl Chloride		4.3	11	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		54.2	268	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		3	6.2	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		1.9	5	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		2.7	10.9	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		3	12	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		85.1	271.9	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		23.4	125.8	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		10290.9 _{AA}	38775.7 _{AA}	<75.0	<1.5	<285.0	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		22.6	123.3	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		8.2	55.6	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		2.3	10.6	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		717.3	3114.3	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		3134.9 _{AA}	13612.3 _{AA}	<75.0	<1.5	<325.0	<6.5
95-47-6	106.17	# o-Xylene		447.4	1942.7	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		22.8	97.1	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		23.4	115	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS11
Depth:
EMT Job No: 22/6236
EMT Sample No: 11
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 792 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		2.9	19.9	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		23	113.1	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		54.5	267.9	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		37.9	186.3	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		4.6	25.3	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		5.4	29.6	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		1.18	6.2	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		14976.88	59205.7				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		99%		0%	0%		
	81	Aliphatic >C4-C6		303447 _{AA}	1005248 _{AA}	<500	<10	<1650	<33
	100	Aliphatic >C6-C8		895942 _{AA}	3664250 _{AA}	<500	<10	<2050	<41
	130	Aliphatic >C8-C10		163678 _{AA}	870240 _{AA}	<500	<10	<2650	<53
	160	Aliphatic >C10-C12		2235 _{AA}	14625 _{AA}	<500	<10	<3250	<65
	78.11	Aromatic >C5-EC7 (Benzene)		85.1	271.9	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		10290.9 _{AA}	38775.7 _{AA}	<75.0	<1.5	<285.0	<5.7
	120	Aromatic >EC8-EC10		273727 _{AA}	1343396 _{AA}	<500	<10	<2450	<49
	130	Aromatic >EC10-EC12		2564 _{AA}	13632 _{AA}	<500	<10	<2650	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS12
Depth:
EMT Job No: 22/6236
EMT Sample No: 12
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 624 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		65.4	323.4	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		3.8	7.8	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		1.8	10.1	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		1.6	6.3	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		2	8	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		37.3	119.2	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		34.2	183.8	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		13.1	49.4	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		7.1	48.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		9.7	42.1	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		19.8	86	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		7.1	30.8	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		4.8	20.4	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		6.7	32.9	<1.5	<1.5	<7.4	<7.4

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Canister Serial number: QT 624 0.45
Sample Train Serial number: -

MDL	Method Detection Limit
RL	Reporting Limit
#	ISO 17025 (UKAS) accredited

QF-PM 3.1.13 v6

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS13
Depth:
EMT Job No: 22/6236
EMT Sample No: 13
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 1558 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		65.1	321.9	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		1.8	3.7	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		12.3	39.3	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		5.9	31.7	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		2138.4 _{AA}	8057.4 _{AA}	<75.0	<1.5	<285.0	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		1.7	11.5	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		139.2	604.4	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		647.8	2812.9	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		115.4	501.1	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		9.8	41.7	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		6.1	30	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 14 Apr 2022
Date of Receipt: 14 Apr 2022
Date Analysed: 27 Apr 2022

Sample ID: WS13
Depth:
EMT Job No: 22/6236
EMT Sample No: 13
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: QT 1558 0.45

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
++ Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		6.9	33.9	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		20.1	98.8	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		13.8	67.8	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		2	11	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		2.5	13.7	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		3189.8	12680.8				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		97%		0%	0%		
	81	Aliphatic >C4-C6		659	2183	<10	<10	<33	<33
	100	Aliphatic >C6-C8		2382	9742	<10	<10	<41	<41
	130	Aliphatic >C8-C10		1302	6922	<10	<10	<53	<53
	160	Aliphatic >C10-C12		762	4986	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		12.3	39.3	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		2138.4 _{AA}	8057.4 _{AA}	<75.0	<1.5	<285.0	<5.7
	120	Aromatic >EC8-EC10		1184	5811	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		69	367	<10	<10	<53	<53

Client Name: Groundtech Consulting Limited

Reference: GRO-21459

Location: Tetrosyl

Contact: Luke Harrison

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/6236

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x50 Dilution
AB	x100 Dilution

HWOL ACRONYMS AND OPERATORS USED

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.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 22/6236

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM68	Modified TO-15 method. Volatile Organic Compounds (VOCs) sampled using Gas Canisters, BottleVacs or Tedlar bags and analysed using Entech GC-MS.	PM0	No preparation is required.				
TM68	Modified TO-15 method. Volatile Organic Compounds (VOCs) sampled using Gas Canisters, BottleVacs or Tedlar bags and analysed using Entech GC-MS.	PM0	No preparation is required.	Yes			

Groundtech Consulting Limited
PO Box 499
Manchester
M28 8EE



Attention : Luke Harrison
Date : 27th October, 2022
Your reference : GRO-21459
Our reference : Test Report 22/16941 Batch 1
Location : Tetrosyl
Date samples received : 15th October, 2022
Status : Final Report
Issue : 1

Eight samples were received for analysis on 15th October, 2022 of which four were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Simon Gomery BSc

Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS514
Depth:
EMT Job No: 22/16941
EMT Sample No: 1
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 1156 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		35.8	177	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		<1.5	<3.1	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		14.5	46.3	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		<1.5	<8.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene	>>	2460.7 _{AA}	9271.8 _{AA}	<3.0	<1.5	<11.4	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		109.6	475.9	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		240.1	1042.6	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		21.2	92.1	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		<1.5	<6.4	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		2.4	11.8	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS514
Depth:
EMT Job No: 22/16941
EMT Sample No: 1
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 1156 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		2884.3	11117.5				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		92%		0%	0%		
	81	Aliphatic >C4-C6		78	258	<10	<10	<33	<33
	100	Aliphatic >C6-C8		820	3354	<10	<10	<41	<41
	130	Aliphatic >C8-C10		838	4455	<10	<10	<53	<53
	160	Aliphatic >C10-C12		12	79	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		14.5	46.3	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)	>>	2460.7 _{AA}	9271.8 _{AA}	<3.0	<1.5	<11.4	<5.7
	120	Aromatic >EC8-EC10		471	2312	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		<10	<53	<10	<10	<53	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS515
Depth:
EMT Job No: 22/16941
EMT Sample No: 2
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 1014 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		353	1745.6	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		<1.5	<3.1	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		3.6	11.5	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		<1.5	<8.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		777	2927.7	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		14.7	63.8	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		53.6	232.7	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		8.9	38.6	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		<1.5	<6.4	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		1.9	9.3	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS515
Depth:
EMT Job No: 22/16941
EMT Sample No: 2
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 1014 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		1.7	8.4	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		2.3	11.3	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		1.7	8.4	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		1218.4	5057.3				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		91%		0%	0%		
	81	Aliphatic >C4-C6		<10	<33	<10	<10	<33	<33
	100	Aliphatic >C6-C8		10	<41	<10	<10	<41	<41
	130	Aliphatic >C8-C10		<10	<53	<10	<10	<53	<53
	160	Aliphatic >C10-C12		20	131	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		3.6	11.5	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		777	2927.7	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		110	540	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		31	165	<10	<10	<53	<53

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS516
Depth:
EMT Job No: 22/16941
EMT Sample No: 3
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 1227 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		6729.6 _{AB}	33278.0 _{AB}	<250.0	<2.5	<1240.0	<12.4
74-87-3	50.49	Chloromethane		<1.5	<3.1	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		2.1	8.5	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		5.1	27.8	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		8.6	27.5	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		1.8	9.7	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		367.6	1385.1	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		25.6	111.1	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		89	386.5	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		10.2	44.3	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		2.1	8.9	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		5.1	25.1	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS517
Depth:
EMT Job No: 22/16941
EMT Sample No: 4
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 259 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m ³	RL ppbv	MDL ppbv	RL ug/m ³	MDL ug/m ³
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		79	390.7	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		<1.5	<3.1	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		<1.5	<7.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		<1.5	<9.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		1.6	5.1	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		5.6	30.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		632.9	2384.7	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		13.1	56.9	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		48	208.4	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		7.5	32.6	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		<1.5	<6.4	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21459
Location: Tetrosyl
Contact: Luke Harrison

Sample Date: 13 Oct 2022
Date of Receipt: 15 Oct 2022
Date Analysed: 25 Oct 2022

Sample ID: WS517
Depth:
EMT Job No: 22/16941
EMT Sample No: 4
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 259 0.55

Sample Train Serial number: -

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT	RESULT	RL	MDL	RL	MDL
				ppbv	ug/m ³	ppbv	ppbv	ug/m ³	ug/m ³
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		<1.5	<9.6	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		2	9.8	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		<1.5	<7.8	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		<1.5	<9.0	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		<1.5	<14.5	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		<1.5	<16.0	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		<0.32	<1.7	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		<1.5	<11.1	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		<1.5	<5.4	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		789.7	3118.3				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		91%		0%	0%		
	81	Aliphatic >C4-C6		<10	<33	<10	<10	<33	<33
	100	Aliphatic >C6-C8		<10	<41	<10	<10	<41	<41
	130	Aliphatic >C8-C10		<10	<53	<10	<10	<53	<53
	160	Aliphatic >C10-C12		23	151	<10	<10	<65	<65
	78.11	Aromatic >C5-EC7 (Benzene)		1.6	5.1	<1.5	<1.5	<4.8	<4.8
	92.13	Aromatic >EC7-EC8 (Toluene)		632.9	2384.7	<1.5	<1.5	<5.7	<5.7
	120	Aromatic >EC8-EC10		98	481	<10	<10	<49	<49
	130	Aromatic >EC10-EC12		41	218	<10	<10	<53	<53

Client Name: Groundtech Consulting Limited

Reference: GRO-21459

Location: Tetrosyl

Contact: Luke Harrison

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/16941

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x2 Dilution
AB	x100 Dilution

HWOL ACRONYMS AND OPERATORS USED

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.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 22/16941

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM68	Modified TO-15 method. Volatile Organic Compounds (VOCs) sampled using Gas Canisters, BottleVacs or Tedlar bags and analysed using Entech GC-MS.	PM0	No preparation is required.				
TM68	Modified TO-15 method. Volatile Organic Compounds (VOCs) sampled using Gas Canisters, BottleVacs or Tedlar bags and analysed using Entech GC-MS.	PM0	No preparation is required.	Yes			

APPENDIX 6 - Limitations

Limitations

This report (Report) forms part of the Services and if applicable Additional Services undertaken by Groundtech Consulting Ltd pursuant to a written contract (Agreement) which contains detailed provisions including express limitations of the liability of Groundtech Consulting Ltd.

This Report was prepared using reasonable skill and care as stated in the Agreement for the purpose including intended end use stated by the Client (Purpose) and the liability of Groundtech Consulting Ltd in respect of the form and content of this Report is no greater than its liability under the Agreement. All records, measurements notes, or any other data (Data) obtained by or for the benefit of the Consultant were obtained at a specific point in time and it may not be assumed by the Client or any person relying on this Report that the Data will remain unaffected by the passage of time, the seasons, weather conditions, changes in the water table or the carrying out and completion of works at the Site.

Unless otherwise agreed this Report has been prepared exclusively for the use and reliance of the Client and may not be relied upon, by any other party except as provided for in the Agreement. A third party who relies on this Report, does so at their own and sole risk and Groundtech Consulting Ltd has no liability to such parties.

Groundtech Consulting Ltd that this Report is to be used for the Purpose. The Purpose was instrumental in determining the scope and of the Services provided. If the Purpose should change, the Client may not be able to rely on the Report without the separate agreement of Groundtech Consulting Ltd.

Since the Report was written, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change (see below) and should be investigated if there is any significant delay in acting on the findings of this Report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions in this Report should not be relied upon in the future without written confirmation from Groundtech Consulting Ltd that it is safe to do so.

The observations and conclusions outlined in this Report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting Ltd.

Groundtech Consulting Ltd is not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The Report is based upon Groundtech Consulting Ltd's observations of existing physical conditions at the Site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the Client on the history and usage of the Site. The findings and recommendations contained in this Report are based in part upon information provided by third parties, and Groundtech Consulting Ltd have relied upon such information assuming it to be correct.

Groundtech Consulting Ltd accepts no responsibility for errors or inaccuracies in third party information presented in this Report. Groundtech Consulting Ltd was not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services or Additional Services. Groundtech Consulting Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting Ltd and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions may also vary due to the ground's heterogeneous properties

and because investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this Report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. If so stipulated in the Agreement, geo-environmental testing was carried out for a limited number of parameters based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

Any groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and groundwater levels may occur at other times of the year which are higher than were recorded during this investigation.

Any site drawings provided in this Report are preliminary and used to present the general relative locations of features on, and surrounding, the Site.

