

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

**SITE INVESTIGATION ON FORMER MILL
LODGE RESERVOIR & ADDITIONAL
INVESTIGATION OF PHASE 2B**

For: Barratt Homes Manchester

August 2024

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Site Investigation on Former Mill Lodge Reservoir & Additional
Investigation of Phase 2B

Client: Barratt Homes Manchester

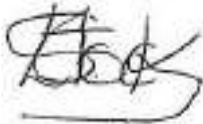
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Signed for Smith Grant LLP

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1. Introduction

- 1.1 The former Tetrosyl Works (the 'Site') is split into two main areas: Phase 1 (which covers the western half, the majority of which has been built out and is occupied with residents), and Phase 2 which is split into nine sub areas (A-H) plus the proposed attenuation pond. The appended Barratt Homes Remediation Phasing Plan (ref: 456/ED/05) shows the different sub areas on the Site.
- 1.2 Remedial criteria have been agreed with the Environment Agency (EA) on Phase 2, including sub areas 2C to 2G which are currently undergoing remediation earthworks to prepare them for residential development. Such works are being undertaken by Urban Regen Ltd. (URL) who is the Principal Contractor under the CDM as appointed by the Client, Barratt Homes Manchester (BHM). Validation of the remedial works in these parts of the Site is currently being undertaken by a sub-consultant of URL.
- 1.3 There has been extensive investigation previously undertaken on the Site by Smith Grant LLP (SGP) and Third Parties. This has included intrusive investigation and assessment, detailed (controlled waters) risk assessment, remedial strategies and validation works. Validation works are currently ongoing within Phase 1.
- 1.4 Previous investigation and assessment have identified contamination within the smear zone and bedrock (Rough Rock Sandstone) aquifer comprising BTEX¹ and chlorinated solvents. The source of the contamination appears to be pinpointed to the former processing area where the bulk storage of chemicals and fuels was located (area zoned as Phase 2B and partially affecting Phase 2A).
- 1.5 Owing to the topography of the site and groundwater contours modelled within an existing hydrogeological assessment, the groundwater from Phase 2b is anticipated to flow southeast beneath the reservoir. It is therefore possible that the residual contaminant plume sourced from Phase 2B may have partially impacted the Rough Rock Sandstone bedrock beneath the former reservoir.
- 1.6 There has been no previous access to the former Mill Lodge reservoir as this has been waterfilled (with a continuous throughflow of water from a tributary of Pigg Lee Brook). During the last quarter of 2023, the tributary of Pigg Lee Brook was diverted within an open culvert to along the western boundary of the reservoir as a temporary feature (before it is realigned along the eastern site boundary). The Mill Lodge reservoir was then dewatered, silts at the base were removed, and the void was infilled with engineered layers of validated clayey fill.
- 1.7 It has previously been acknowledged that further information on Phase 2B was necessary to assist with plume modelling, aquifer characterisation and refinement of the detailed quantitative

¹ benzene, toluene, ethylbenzene and xylenes

risk assessment (DQRA). All this information is to ultimately assist with providing a detailed options appraisal for the remediation of impacted groundwater within the bedrock aquifer.

- 1.8 SGP has been appointed to undertake investigations and monitoring on the former reservoir area in addition to undertaking further intrusive investigation on Phase 2B to further delineate the source zone and to allow depth profiling and plume characterisation.

2. Site Background

2.1. Site Setting

- 2.1.1. The Site is in the northern part of Bury, Greater Manchester, occupying the valley of a tributary to Pigg Lee Brook. The original site topography sloped from approximately 154m above ordnance datum (AOD) in the north to 139m AOD at the site boundary in the southwest. There are substantial drops in levels across the reservoir dam in the east and over a series of large retaining structures to the west.

Table 1.1: Site Details

Address	Bevis Green Works, Mill Road, Bury BL9 6RE
National Grid Reference	380950, 413950
Local Authority	Bury Metropolitan Borough Council (BMBC)
Site Area	~10.4 ha
Previous Use of Site	Office, warehouse, solvent recovery farm and packaging operations for chemical products used in vehicle maintenance. Remediation and preparatory earthworks currently ongoing.
Planning Reference:	63533
Proposed Use	Residential development with associated car parking, infrastructure and open spaces.

Figure 1.1: Site Location



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2.2. Site History, Geology, Topography, Hydrogeology and Hydrology

- 2.2.1. During the site's historical development prior to 1844, a tributary of Pigg Lee Brook, which previously flowed through the site was dammed to form a reservoir in the centre-east, originally discharged to two smaller reservoirs to the south and a culvert below the southeast part of the site. These reservoirs facilitated the original known development of the site, the Bentley and Lumn Cotton Mills.
- 2.2.2. By 1890 a change to the use of the site had occurred, referred to in the mapping as 'Lumn Mills (Cotton & Logwood dyes)', and the main reservoir is shown to have significantly expanded northwards; a new earth-retained reservoir is also indicated in the southwest. The usage of the site changed again to the 'Bevis Green Print Works' by 1928, with a rock quarry also indicated in the centre-north of the site to the west of the main reservoir. By the mid-1960s, Tetrosyl had acquired and further developed the site as a 'Car Accessories Factory' which latterly included a solvent bulk storage and recovery plant in the centre-northwest adjacent to the remaining reservoir.
- 2.2.3. All of the onsite reservoirs have now been drained and infilled. Most recently this has included the main Mill Lodge Reservoir in the northeastern part of the site which was drained, silts excavated and backfilled with engineered layers of clayey fill (up to 8m thickness in places).
- 2.2.4. The industrial use of the site finally ceased in late 2019, since which time a programme of demolition works and remediation earthworks has progressed in the Phase 1 part of the site which has been implemented to prepare the site for redevelopment to housing and much of this part of the Site is now occupied.
- 2.2.5. BGS mapping indicates superficial deposits of Glacial Till (Boulder Clay) across the site which have been confirmed at various locations, although site investigation information has shown this exists as a thin layer, typically less than 2m thick, whilst being completely absent across large parts of the site, likely because of the previous development. At these locations the underlying Rough Rock sandstone unit outcrops. The Rough Rock thins to the south and southwest and is absent from the most south-easterly parts of the site, where the mudstones of the underlying Rossendale Formation outcrop.
- 2.2.6. It is understood that the reservoir is located within a former valley and that boulder clay sits above the Sandstone bedrock (The Rough Rock).
- 2.2.7. A thin band of coal/seal-earth has previously been identified within the Rough Rock Sandstone which may be limiting the vertical mobilisation of the contamination plume identified in Phase 2B.
- 2.2.8. The presence of made ground has also been confirmed across the developed parts of the site during the various phases of site investigation, with only a thin veneer of hardcore noted in the northwest in the northern, undeveloped part of the site. The depths of made ground have

been shown to be variable generally extending down to 2-3m below ground level (bgl) in the central and southern sectors, with a maximum proven depth of 11m in the southwest, representing infill to the original Pigg Lee Brook Valley landform.

- 2.2.9. Groundwater levels fall across the Site in general accordance with the natural topography. In the northern areas groundwater is present at, or near to the top of, the Rough Rock, and a gradient down to the southwest is apparent over most of the central and western parts of the site. The situation in the east of the site is less clear, however groundwater flows here are likely to be influenced by the presence of the reservoir, dam and culverted watercourse. The culvert appears to be in hydrological continuity with the local groundwater and to serve as a groundwater drain. The Rough Rock is classified by the EA as a Secondary A Aquifer, potentially important for local water supply or providing baseflow to surface watercourses.
- 2.2.10. In the southernmost parts for the Site which have been subject to several rounds of groundwater monitoring, groundwater levels appear to follow the original valley profile with the levels concordant with the culvert invert levels. This therefore probably provides baseflow to the culverted watercourse which discharges some 200m from the site boundary in a steep valley to the southwest.
- 2.2.11. While the shallow groundwater in the Rough Rock is considered likely to be in hydraulic continuity with the deeper strata of the Rossendale Mudstone Formation, these are represented locally by shales and mudstones. Given the almost exclusive presence of light non-aqueous phase liquids (LNAPL) as the primary pollution sources on the site, impacts to groundwater bodies other than the Rough Rock aquifer are considered unlikely.
- 2.2.12. Glycols (antifreeze chemicals) have been detected at low levels (below drinking water standards) at the culvert outfall 200m from the site boundary. It is proposed that the reservoir surface water outflow will remain culverted in the southern part of the site and eastward diversion of the upper part of the watercourse is intended, which may reduce the likelihood of leaching from the contaminated parts of the site currently causing impacts.
- 2.2.13. SGP became involved with the project in 2019 which included a review of various Stage 1 & 2 Investigations and a Remediation Strategy for the site by several third parties and production of an Outline Remediation Strategy (ref: 2174-R01-v2; May 2019). This was prepared by SGP and submitted to Regulators including the EA and Bury Metropolitan Borough Council (BMBC) together with proposals for additional site investigation works. Regulators have acknowledged the general approach provided within the remedial strategy and reiterated the requirement for further investigations and better characterisation of the risks associated with the site before the Strategy could be approved site wide. The further investigations required relate to issues concerning the management of risks to human health from ground gas and volatile organic compounds (VOC) vapours, and the protection of Controlled Waters.

2.2.14. Several phased supplementary site investigation and groundwater investigation reports intended to address regulatory concerns regarding the delineation and characterisation of contamination at the site have since been produced by SGP. In particular, the results from the following reports have provided detail on the significant pollutants present and their distribution within soil and groundwater at the site:

- Phase 1 Supplementary Groundwater Investigation (ref: R2174c-R03-V1, Date: October 2020);
- Phase 2 Supplementary Site Investigations carried out to characterise the major identified potential pollution sources (ref: R2174-R06-V1, Date: April 2021);
- Phase 2 Supplementary Groundwater Investigation No 2. (ref: R2174c-R09-V1, Date: June 2021).

2.2.15. A previous Controlled Waters Risk Assessment (ref. R2174-R10-v2) was produced by SGP which included the derivation of Remedial Target Values (RTVs) for groundwater and soils remediation. However, following EA consultation (ref. ENVPAC/1/GMC/00223; 18 November 2021), further investigation was required within areas previously constrained which had been identified as potential hotspots. It was also acknowledged that some preparatory works including removal of any existing tanks would be necessary to facilitate such further investigations and that these should be carried out to reduce the likelihood of any continued contaminant loss from such sources.

2.2.16. Additional investigation works have been undertaken by Groundtech which included further monitoring of the existing groundwater wells and has led to the production of an updated Controlled Waters DQRA with derivation of RTVs for adoption under the Strategy. For clarity, the RTVs derived by Groundtech provided within letter report 'GRO-21459-4595' (dated 14th July 2023) have been incorporated in the Remedial Strategy (R11-v6 which relates to Phase 2 excluding 2A, 2B and the former Mill Lodge Reservoir).

2.2.17. A remedial strategy has since been produced by SGP concerning the Phase 2 areas of the site located to the south of Phases 2A and 2B and the Mill Lodge Reservoir (Ref: R2174-R11-v6, dated October 2023). This includes the RTVs derived by Groundtech. This report has recently been approved by Regulators.

2.2.18. A DQRA for controlled waters has been produced by SGP, with the findings being used to inform and refine RTVs and the CSM in this part of the Site (Phase 2A, 2B and the former Mill Lodge Reservoir). The RTVs derived within the DQRA have been used to compare the groundwater monitoring and sampling events of January and April 2024, as detailed later within Section 5.

2.2.19. In October 2023, one round of groundwater monitoring and sampling was completed by SGP on a selection of the existing monitoring wells and at three points along the open watercourse (Tributary of the Pigs Lee Brook) running through the site. This was to provide additional contaminant data on groundwater and surface water to provide an up-to-date background.

2.2.20. During this groundwater sampling and monitoring event, the following contaminants were identified within select wells as elevated against previously derived RTVs:

- Fluoranthene
- Benzo(a)pyrene
- Aliphatic hydrocarbons (C8-C10 band)
- Aromatic hydrocarbons (C5-C7, C7-C8, and C8-C10 bands)
- Benzene
- Toluene
- Ethylbenzene
- m/p-Xylene
- Vinyl Chloride
- Chloroform

2.2.21. No LNAPL was recorded within any of the groundwater wells installed and all water sampled and analysed from the culverted watercourse was generally below corresponding laboratory limits of detection (<LOD).

3. Investigation Scope & Methodology

3.1. Aim

3.1.1. The aim of this site investigation has been to establish the lateral and vertical extent of the contamination plume. Moreover, the intention has been to ascertain whether the plume has extended into the former Mill Lodge Reservoir plus the outer fringes of Phase 2B, which has included the boundary between Phase 2B and Phase 2A and of Phase 2B with Phase 2C to the south.

3.2. Intrusive Investigation and Monitoring Objectives

3.2.1. The purpose of drilling the additional boreholes was two-fold:

- to enable their installation with monitoring wells to allow for a groundwater monitoring and sampling programme to establish the lateral and vertical extent of impacted groundwater within the bedrock both underlying the reservoir and to the south of a former wall located directly to the south of Phase 2B (previously theorised to be acting as a barrier preventing migration of the contaminant plume). The aim is to be able to intercept and sample the plume, if present, at varying depths; and,
- to further characterise ground conditions within the bedrock aquifer with submission of soil samples for classification of the solid aquifer matrix materials.

3.2.2. Of particular interest is a thin band of coal / seatearth that has been previously identified within the Rough Rock Sandstone which is considered as potentially limiting the vertical mobilisation of the contaminant plume.

3.3. Scope of Works

3.3.1. The intrusive site investigation involved rotary boring (open hole drilling to rock head with coring thereafter using water flush) which is consistent with previous investigation and monitoring works carried out over the wider Phase 2 area. The drilling works were undertaken by Taylor Drilling Services Ltd. (TDS) under the supervision of SGP Environmental Consultants, between the 4th December 2023 and 6th January 2024.

3.3.2. The boreholes have been drilled within:

- the former reservoir (particularly within the western and southwestern areas) to determine the extent and impact of contaminants migrating within groundwater from Phase 2B;
- the area directly south of Phase 2B where an apparent sub-surface feature was hypothesised to be stopping the plume migrating further south; and,

- within Phase 2B located along the boundary of Phase 2A and within the former processing areas where the most contaminant impact within the groundwater of the bedrock aquifer has been recorded.

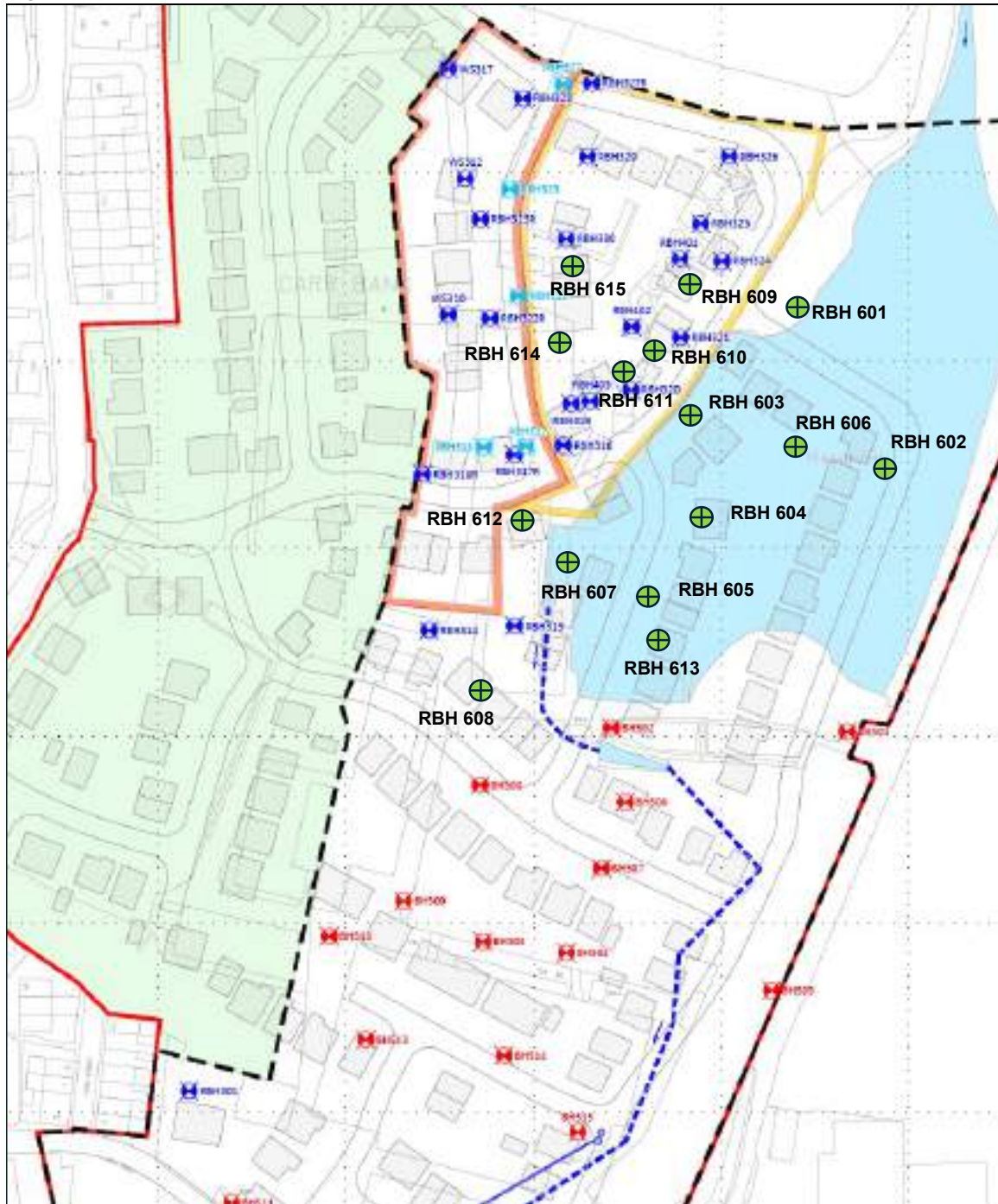
3.4. Investigation Methodology

3.4.1. The investigation undertaken has included the drilling of fifteen bores using rotary coring within bedrock to depths of between 10m and 15m bgl. Figure 3.1 below shows the approximate locations of the exploratory holes in relation to other exploratory holes already drilled (and installed) on Site. URL Borehole Location drawing '333/12/01/24' is appended which shows the exploratory holes surveyed against the proposed development layout.

3.4.2. The exploratory hole locations were set out as follows:

- RBH602, 604, 605, 606 & 613 – To provide coverage across the former reservoir to assess the extent of contaminant plume migration over this area (particularly with emphasis on the western boundary of the former reservoir to establish the extent of any impact from Phase 2B);
- RBH614 & 615 – To provide additional information regarding the contaminant plume fringe between Phases 2A and 2B;
- RBH609, 610 & 611 – To provide further information in relation to the vertical extent of the contaminant plume source zone in Phase 2B;
- RBH601 & 603 – To provide further information in relation to the lateral extent of the contaminant plume source zone directly to the east of Phase 2B.
- RBH607, 608 & 612 – To provide further information with respect to any southern migration of contaminant impacted groundwater from Phase 2B to other areas of Phase 2.

Figure 3.1. Borehole Location Plan



Please note that the '6 series' wells in addition to RBH320 and RBH321) relate to those monitored and sampled as part of this investigation

- 3.4.3. All rotary bores have been installed with 50mm diameter monitoring wells to allow for groundwater monitoring and sampling. Nine of the boreholes were also installed with secondary, 19mm diameter, monitoring wells. This was to allow monitoring and sampling of groundwater from two different response depths within the sandstone aquifer and to assess the thickness of the plume – these include RBH601, RBH603-604, RBH606, RBH609-611, RBH614 and 615.

3.4.4. The response zones of each monitoring well (comprising slotted sections of pipe surrounded by filter sock and pea gravel) were generally 2m in length to help pinpoint the depth of the contamination source. The areas surrounding the plain sections of pipe were sealed using expanding bentonite clay pellets which were also used to partially backfill the boreholes / seal the base of the installations.

3.4.5. Details of the borehole installations are included in the SGP Borehole Logs provided in Appendix B. Table 3.1 summarises the strata and recorded depths within which each of the response zones have been installed.

Table 3.1: Summary of Borehole Response Zones

Borehole reference	Response Zone Depth (m bgl)	Response Zone Depth (m AOD)	Response Zone Strata
RBH601	(S) 5.0-7.0	143.924-141.924	Sandstone (The Rough Rock) – above mudstone layer at 7.15-7.5m
	(D) 9.0-11.0	139.924-137.924	Sandstone (The Rough Rock) – below mudstone layer at 7.15-7.5m
RBH602	7.5-10.5	140.531-137.531	Sandstone (The Rough Rock) – above coal layer at 10.5-11.2m*
RBH603	(S) 3.0-5.0	144.304-142.304	Sandstone (The Rough Rock) – above coal / seatearth at 5.0-6.55m*
	(D) 7.0-9.0	140.304-137.924	Sandstone (The Rough Rock) – below coal / seatearth at 5.0-6.55m
RBH604	(S) 5.5-7.5	142.396-140.396	Sandstone (The Rough Rock) – above coal / seatearth at 8.1-9.2m
	(D) 9.5-11.5	137.896-135.896	Sandstone (The Rough Rock) – below coal / seatearth at 8.1-9.2m
RBH605	5.5-7.5	142.259-140.259	Sandstone (The Rough Rock) – above coal / seatearth at 7.9-8.3m
RBH606	(S) 7.0-9.0	140.318-138.318	Sandstone (The Rough Rock) – above coal layer at 9.1-9.9m*
	(D) 9.5-11.5	137.818-135.818	Straddles coal / siltstone / sandstone (The Rough Rock)*
RBH607	4.0-6.0	144.007-142.007	Sandstone (The Rough Rock) – below coal layer at 3.2-3.6m
RBH608	3.0-5.0	140.909-138.909	Sandstone (The Rough Rock) – above coal / mudstone at 6.0-10m
RBH609	(S) 3.0-5.0	148.201-146.201	Sandstone (The Rough Rock) – above coal layer at 5.0-5.8m*
	(D) 6.5-8.5	144.701-142.701	Sandstone (The Rough Rock) – below coal layer at 5.0-5.8m
RBH610	(S) 1.0-3.0	149.415-147.415	Made ground / sandstone (The Rough Rock)
	(D) 6.5-8.5	143.915-141.915	Sandstone (The Rough Rock) – below coal / seatearth at 5.4-6.2m
RBH611	(S) 1.0-3.0	148.679-146.679	Made ground / sandstone (The Rough Rock)
	(D) 6.5-8.5	143.179-141.179	Sandstone (The Rough Rock) – below coal layer at 5.0-5.8m
RBH612	4.0-6.0	144.421-142.421	Sandstone (The Rough Rock) – no coal / mudstone layers encountered
RBH613	9.0-11.0	138.550-136.550	Sandstone (The Rough Rock) – no coal / mudstone layers encountered
RBH614	(S) 4.0-6.0	146.108-144.108	Sandstone (The Rough Rock) – below coal / seatearth at 2.7-3.8m
	(D) 9.0-12.0	141.108-138.108	Sandstone (The Rough Rock) – installed to mirror RBH615
RBH615	(S) 3.0-5.0	148.078-146.078	Sandstone (The Rough Rock) and partially within suspected coal / seatearth layer at 2.6-3.4m
	(D) 9.0-12.0	142.078-139.078	Sandstone (The Rough Rock) – below suspected coal / seatearth layer at 2.6-3.4m*

*contamination indicators noted during drilling works (see Section 4)

3.4.6. During the investigation, bedrock samples were collected and submitted for testing of particle density, bulk density, particle size distribution, pH and total organic carbon (TOC).

3.4.7. During drilling, select rock cores were collected by Geochem Ltd and snap frozen on Site (to ensure preservation of the contamination within). These were then transported to their laboratory for specialist analysis to assist with plume modelling. The findings of this assessment will be reported separately, although detailed logs of the rock cores taken are provided alongside SGP borehole records within Appendix B.

3.5. Groundwater Monitoring, Sampling and Analysis

3.5.1. Following completion of the rotary drilling works, SGP consultants attended site on the 10-11th January 2024 to develop the installed monitoring wells by means of removing drill fines via agitation and ensuring a free flow of groundwater from the surrounding formation. All water removed during this exercise was captured within an IBC and will be treated on site during remediation or disposed of offsite to a suitably licensed treatment facility.

3.5.2. SGP consultants returned to site on the 24-25th January 2024 to carry out the first groundwater monitoring and sampling round on all of the installed wells. The exceptions to this were the shallow wells installed in both RBH610 and RBH611 as these were both deemed to be unusable. In substitute of these, nearby historic wells RBH320 and RBH321 were utilised (logs provided in Appendix B) which had response zones targeted to the desired stratum (i.e. the Rough Rock sandstone located above the coal / seatearth). The deep well in RBH611 was also not sampled as this was blocked; however, given the proximity of this entry to RBH610, the deeper well of which was targeted to the same stratum, this is not considered a significant hindrance to the assessment.

3.5.3. Each of the wells were purged and simultaneously monitored for the following parameters:

- pH
- dissolved oxygen (DO) as mg/l & %,
- temperature (degrees Celsius),
- redox potential (ORP).
- electrical conductivity (SPC).
- Total dissolved solids (mg/l); and,
- Observations (visual and olfactory).

3.5.4. Purging of each monitoring standpipe was deemed complete once stabilisation of the parameters to within acceptable ranges was achieved. All purged water was captured and stored on-site within an IBC for future treatment during the remedial phase. SGP Groundwater Fieldwork Data Records are provided in Appendix C.

3.5.5. Groundwater samples (total no. 23) were then collected from all of the wells installed as part of this investigation (with exception of those mentioned above in entries RBH610 and RBH611 whereby historic boreholes RBH320 and RBH321 were instead sampled). Samples were placed into containers as advised by the laboratory (Element Materials Technology, Deeside

(EMT)), stored in chilled cooled boxes, and transported to the laboratory within 36 hours of collection. SGP retains chain of custody documentation. The samples were then scheduled for the following analysis of the contaminants of concern:

- TPH CWG hydrocarbons (C5-C35 carbon bandings with aromatic and aliphatic split)
- Benzene, xylene, ethylbenzene & xylenes (M/P & O) (BTEX);
- Methyl-tert-butyl ether (MTBE);
- Volatile Organic Compounds (VOCs) including Tentatively Identified Compounds (TICs);
- Semi-Volatile Organic Compounds (SVOCs) including TICs;
- Speciated Polyaromatic Hydrocarbons (PAHs) (USEPA 16 species);
- Speciated phenols; and,
- Speciated Glycols (monoethylene glycol, propylene glycol, diethylene glycol, triethylene glycol & thiodiglycol).

3.5.6. The following analysis was also scheduled on the groundwater samples for the purposes of determining geochemical conditions within the aquifer:

- pH;
- sulphur;
- sulphide;
- sulphate;
- dissolved and total iron (ferrous & ferric);
- Dissolved organic carbon (DOC);
- Total organic carbon (TOC);
- Nitrate and nitrite;
- Dissolved and total Manganese (II and total);
- Chemical oxygen demand (COD);
- Biochemical oxygen demand (BOD);
- Dissolved gases: ethene, carbon dioxide and methane
- Sodium, potassium and chloride; and,
- Alkalinity.

3.5.7. A second round of monitoring was undertaken on 3rd and 4th April 2024 which repeated that previously completed to provide a more comprehensive dataset.

4. Results of Fieldwork

Drilling Investigation (4th December 2023 – 6th January 2024)

4.1. Ground Conditions Encountered During Drilling

- 4.1.1. The following descriptions of the ground conditions are summarised from the SGP and GeoChem Ltd. Borehole logs provided in Appendix B. Photographs showing the borehole locations and the recovered cores are provided in Appendix D.

Superficial Deposits - Made Ground

- 4.1.2. Made ground was identified in all of the boreholes drilled as part of this investigation with exception of RBH608.
- 4.1.3. The made ground was consistently described as reworked superficial deposits comprising a brown, slightly sandy, gravelly clay to depths of between 0.8m (RBH607) and 5.8m bgl (RBH603). The only exceptions to this were: 1) a very soft, greyish brown, slightly gravelly, sandy silt described in entry RBH604 (2.8-3.5m bgl), and 2) made ground boulders described in entries RBH602 (3.5-3.8m bgl) and RBH613 (5.8-6m bgl).
- 4.1.4. Soft strata was also encountered beneath the boulders in entries RBH602 and RBH613 to depths of 6.9m and 7.6m bgl, respectively. It is, however, unclear whether the material was made ground or natural superficial strata and, if both strata types are present, where the interface between these are as no recovery of these soils was achieved (likely due to saturation of the soils).
- 4.1.5. The depth of the made ground in the area of the former reservoir (entries RBH602, 604-606 & 613) was deeper than that recorded within the other entries with depths confirmed at between 3.35m (RBH606) and 6m bgl (RBH613). Potentially deeper deposits of made ground may also have been present to 6.9m bgl in RBH602 and 7.6m bgl in RBH613, however this is unconfirmed due to the limited recovery of soils at the interface of the natural and made ground strata in these entries. It is understood that the deeper made ground in this area is the result of reprofiling works undertaken by URL which involved filling the former reservoir area with recovered clay soils after it was drained and the reservoir silts were dredged and removed.
- 4.1.6. The depth of the made ground to the southwest of the extents of the former reservoir was typically between 2.5m and 3.2m bgl; however, shallower deposits were recorded in RBH608 to 0.8m bgl. Made ground was also absent in RBH607 as this entry was located in an area where a reduced level dig has been carried out and where sandstone is present at the site surface.

Superficial Deposits - Natural

4.1.7. Natural superficial deposits were only confirmed in three of the borehole entries, all of which, were located within the extent of the former reservoir as follows:

- RBH601 (2.5-3.2m) – Brown clay (no detailed description as no soil recovery);
- RBH602 (6.9-7.5m) – Brown, gravelly, very sandy clay;
- RBH606 (3.35-3.75m) – Very soft, greyish brown, slightly gravelly, sandy silt (possibly reworked); and,
- RBH606 (3.75-4.00m) – Greyish brown, gravelly, very sandy clay with occasional cobbles of sandstone and pockets of brown and green, medium coarse sand (possibly reworked).

Weathered Sandstone

4.1.8. Weathered sandstone was only recorded within a single entry (RBH601) at between 3.2-4.5m bgl, although no recovery of this material was achieved.

4.1.9. In most of the entries, sandstone was described directly underlying the made ground or natural superficial deposits however recovery of the top section of this stratum often wasn't possible. Weathered sandstone could have been present within these entries but this is unconfirmed. The relevant boreholes / depths are listed below:

- RBH603 (3.00-3.25m)
- RBH604 (3.5-5.1m)
- RBH605 (4.0-5.0m)
- RBH606 (4.0-4.6m)
- RBH607 (0.8-2.2m)
- RBH608 (0.0-1.5m)
- RBH609 (2.5-4.0m)
- RBH610 (2.7-3.3m)
- RBH611 (2.8-3.6m)
- RBH612 (3.2-4.7m)

Sandstone (The Rough Rock)

4.1.10. Competent sandstone bedrock of the Rough Rock formation was encountered in every borehole drilled as part of this investigation. This was present from as shallow as the site surface in entry RBH608 at 143.909m AOD (the southernmost entry drilled, also located in an area where a reduced level dig has been carried out), and from as deep as 7.6m in entry RBH613 (139.950m AOD) located in the area of the former reservoir, now infilled.

4.1.11. The Rough Rock was present to unproven depths (max. >15m bgl in entry RBH615) within all but one of the borehole entries – RBH608 – where it was proven to 6m bgl underlain by coal and then mudstone of the Rossendale Formation.

4.1.12. The Rough Rock sandstone was typically described as follows:

- weak, although in some entries it was described locally as very weak or medium strong;
- various colours, however most commonly described as greyish-brown, light grey and light brown. Orange staining was also frequently described;
- variable grain sizes from fine to coarse, with the coarse grain size commonly associated with deeper deposits; and,
- fractures were consistently described as “rough”, typically very closely to medium spaced (although local descriptions of extremely closely and widely spaced fractures were also recorded), usually sub-horizontal / horizontal but also with some sub-vertical fracturing, and often with orange, red and/or black staining present along the fractures.

4.1.13. Other noteworthy descriptions include that the sandstone was locally described as micaceous, thin laminations of coal or suspected coal were locally present, and clay was occasionally described as either infill within fractures or as discrete pockets within the sandstone.

Coal / Seatearth

4.1.14. A distinct band of coal was described in most the entries with the exception of boreholes RBH612, RHB613 and RBH615. However, it should be noted that the presence of coal and/or seatearth was suspected in RBH615 between the strata of made ground and sandstone at 2.6-3.4m bgl, although no recovery was achieved from this depth so this is unconfirmed. The coal deposits ranged in thickness from between 0.1m (RBH605) to 1.0m (RBH602, RBH603 & RBH604) and was typically encapsulated within the Rough Rock sandstone. The only exceptions to this being 1) entry RBH608 where the coal was situated between the Rough Rock and the underlying mudstone of the Rossendale Formation, and 2) RBH614 where the coal was present at rockhead.

4.1.15. Where recovered, the coal was either described as a black gravel (RBH604 & RBH605) or, where intact, an extremely weak or very weak black coal (RBH606, RBH607 & RBH610).

4.1.16. The depths of the coal layer or suspected coal layer within each of the boreholes drilled as part of this investigation (where encountered) is indicated in m AOD on drawing 333/12/01/24.

4.1.17. In half of the boreholes where coal was identified, an associated underlying layer of seatearth clay (or suspected seatearth where recovery was not possible) was recorded (RBH603, RBH604, RBH605, RBH609, RBH610 & RBH614). This stratum ranged in thickness from

0.1m (RBH604) to 0.6m (RBH614) and was described as a slightly gravelly / gravelly, locally slightly sandy, clay.

Mudstone / The Rossendale Formation

4.1.18. Mudstone was described within two entries as follows:

- 1) RBH601 – present as a thin layer encapsulated between the Rough Rock sandstone from 7.15m to 7.5m bgl described as an extremely weak grey mudstone;
- 2) RBH608 – present from 6.5m bgl underlying the Rough Rock sandstone / coal to an unproven depth of >10m bgl, described as an extremely weak, locally very weak, thinly laminated dark grey mudstone with slika mineralisation (the Rossendale Formation).

Siltstone

4.1.19. Siltstone was described within a single entry (RBH606) between 9.9m and 10.8m bgl situated between an overlying layer of coal and the Rough Rock sandstone. This was described as a very weak brownish grey sandy siltstone with sub-horizontal very closely to medium spaced fractures.

4.2. Groundwater Conditions Encountered During Drilling

4.2.1. Due to the use of casing and recirculated water flush during the drilling process it wasn't possible to determine the depth of the groundwater strikes for most of the borehole locations with exception of the following:

- RBH607: 2.8m bgl
- RBH608: 0.5m bgl
- RBH611: 1.5m bgl

4.2.2. Artesian groundwater conditions were also noted in the following boreholes during or shortly after drilling:

- RBH601: slight outflow noted upon completion of boring. Suspected that the layer of mudstone at between 7.15-7.5m bgl was confining the aquifer in the Rough Rock sandstone, however the flow ceased after a period of several days;
- RBH603: steady outflow recorded following penetration of seatearth clay at 6.55m bgl into the Rough Rock Sandstone with continued flow from deeper well installation (response zone from 7-9m bgl);

- RBH603: steady outflow recorded following penetration of seatearth clay at 9.2m bgl into the Rough Rock Sandstone with continued outflow from both well installations with response zones from 5.5-7.5m bgl and 9.5-11.5m bgl.

4.3. Contamination Indicators During Drilling Works

4.3.1. Indicators of contamination were recorded in eight of the fifteen boreholes drilled as part of these site investigation works consisting either of a sweet chemical odour and/or slightly to significantly elevated VOC readings from the soil / rock arisings when screened with a Photoionisation Detector (PID) with a 10.6ev bulb, as follows:

- RBH602: sweet chemical odour noted during drilling works from 7.5-10.5m bgl, however odours were not apparent in the recovered sandstone core and no elevated PID readings above detection limits were recorded.
- RBH603: sweet chemical odour noted during drilling works at approximately 3m bgl, however odours were not apparent in the recovered sandstone core and no elevated PID readings above detection limits were recorded.
- RBH606: strong, sweet chemical odour noted during drilling works as well as a slight, sweet chemical odour from the recovered sandstone / coal / siltstone core from 8-12.5m bgl, however no elevated PID readings recorded.
- RBH609: strong, sweet chemical odour noted during drilling works from 2.5-6m bgl and a strong, sweet chemical odour also recorded from the recovered sandstone core from 4-4.2m bgl associated with a slightly elevated PID reading of 13.6ppm.
- RBH610: strong, sweet chemical odour noted during drilling works from 3-6m bgl and a strong, sweet chemical odour also recorded from the recovered sandstone core from 3.3-5.4m bgl associated with elevated PID readings of 118.4ppm (3.3-4m), 12.6ppm (4-5m) and 7.6ppm (5-6m – includes stratum of coal underlying sandstone).
- RBH611: slight, sweet chemical odour recorded from the recovered sandstone core from 3.6-5m bgl associated with slightly elevated PID readings of 0.2ppm (3.6-4.7m) and 2.3ppm (4.7-5m).
- RBH612: slightly elevated PID readings of 2.6ppm (4.7-5m) and 0.2ppm (5-5.7m) from recovered sandstone core, however no associated odours.
- RBH615: strong, sweet chemical odour and sheen on water flush noted during drilling works from 9-12m bgl, however odours were not apparent in the recovered sandstone core and no elevated PID readings above detection limits were recorded.

- 4.3.2. A plan showing the contamination indicators encountered during the drilling works is appended to the report (Drawing ref: 001).

Groundwater Monitoring and Sampling: January 2024

4.4. Well Development (10-11th January 2024)

- 4.4.1. Following completion of the drilling works, an SGP Environmental Consultant attended site on the 10th and 11th January 2024 to prepare the wells for groundwater sampling via the method described in Section 3.5.1.

4.5. Water Quality Monitoring (24th & 25th January 2024)

- 4.5.1. During the groundwater sampling exercise carried out by SGP consultants on the 24th and 25th January 2024, in-situ field monitoring was also carried out using a YSI Quatro Pro water meter (calibration certificate provided in Appendix F) for the following parameters: pH, temperature, dissolved oxygen (DO), specific conductivity (SPC), oxidation / redox potential (ORP) and total dissolved solids. The full set of monitoring records are provided in Appendix C and the readings are summarised in the table below (presented as ranges as several readings were taken from each borehole):

Table 4.1: In-situ Field Monitoring Results (January 2024)

Borehole reference:	pH (units)	Temp (°C)	DO (mg/l)	SPC (µs cm⁻¹)	ORP (mV)	Total Dissolved Solids (mg/l)
RBH601 (s)	7.26-7.40	9.3-9.6	5.89-6.06	0.4520-0.4537	66.8-69.3	0.2935-0.2948
RBH601 (d)	7.30-7.47	8.2-9.3	6.24-7.42	0.4548-0.4574	48.9-64.7	0.2965-0.2979
RBH602	8.29-8.37	10.6-10.8	0.20-0.47	1.116-1.128	-77.3(-)-22.1	0.725-0.732
RBH603 (s)	7.19-7.24	9.5-9.9	1.22-4.51	0.3901-0.3974	55.7-58.7	0.2562-0.2593
RBH603 (d)	7.26-7.29	10.0-10.2	2.00-2.06	0.3987-0.4020	43.4-49.1	0.2589-0.2614
RBH604 (s)	7.13-7.14	10.2-10.3	3.34-6.49	0.4161-0.4172	54.4-55.7	0.2705-0.2711
RBH604 (d)	7.20-7.29	10.1	4.06-4.14	0.4195-0.4265	58.9-61.9	0.2728-0.2766
RBH605	7.40-7.45	10.2-10.3	0.91-2.05	0.2907-0.3029	24.1-32.4	0.1835-0.1935
RBH606 (s)	7.56	10.8-10.9	0.27-0.32	0.508-0.513	46.5-50.0	0.3303-0.3315
RBH606 (d)	7.45	10.4-10.5	0.31-0.36	0.4612-0.4620	45.7-46.3	0.2999-0.3303
RBH607	7.81-7.82	9.7-10.4	0.34-1.41	0.509-0.514	10.2-27.2	0.3309-0.3323
RBH608	7.45-7.51	7.4-7.5	1.25-2.03	0.467-0.469	29.2-46.1	0.3036-0.3068
RBH609 (s)	8.38-8.40	9.5-9.6	0.27-0.41	0.798-0.807	-61.1(-)-26.6	0.518-0.524
RBH609 (d)	7.55-7.66	10.0-10.5	0.50-2.50	0.4364-0.4648	52.3-65.1	0.2834-0.3005
RBH610 (d)	7.46-7.53	10.2-10.5	0.25-0.81	0.3419-0.3620	23.9-27.7	0.2235-0.2356
RBH612	8.09-8.30	9.9-10.4	0.35-1.86	0.601-0.602	-15.9(-)-14.7	0.3891-0.3912
RBH613	8.15	10.1-10.3	0.20-0.88	0.839-0.851	-37.5(-)-30.8	0.545-0.553
RBH614 (s)	8.34-8.46	10.0-10.2	0.38-1.45	0.955-0.979	-53.4-3.3	0.619-0.633
RBH614 (d)	8.29	10.1-10.4	0.48-0.54	0.614-0.615	-64.2(-)-51.2	0.4168-0.4172

Borehole reference:	pH (units)	Temp (°C)	DO (mg/l)	SPC ($\mu\text{s cm}^{-1}$)	ORP (mV)	Total Dissolved Solids (mg/l)
RBH615 (s)	7.99-8.00	8.9-9.1	0.35-0.71	1.386-1.398	-8.1-7.9	0.901-0.908
RBH615 (d)	7.87-7.98	10.2-10.3	0.30-1.24	0.4474-0.4572	-22.8(-)-23.5	0.2906-0.2942
RBH320	8.22-8.23	9.0	3.91-4.85	1.207-1.232	-57.2(-)-42.4	0.785-0.826
RBH321	8.14-8.16	9.8	2.02-3.39	1.137-1.152	-73.3(-)-71.8	0.743-0.749

4.5.2. Observations of potential contamination indicators were also made during the groundwater purging and sampling exercise, as follows:

- RBH609 (shallow): Strong, sweet, chemical odour; grey sediment
- RBH615 (shallow): Slight, sweet, chemical odour
- RBH615 (deep): Slight, sweet, chemical odour
- RBH320: Strong, sweet, chemical odour; black sediment
- RBH321: Moderately strong, sweet, chemical odour

4.6. Water Quality Monitoring (03rd & 04th April 2024)

4.6.1. During the groundwater sampling exercise carried out by SGP Consultants on the 3rd and 4th April 2024, in-situ field monitoring was again carried out for the parameters described above. The full set of monitoring records are provided in Appendix C and the readings are summarised in the table below (presented as ranges as several readings were taken from each borehole):

Table 4.2: In-situ Field Monitoring Results (April 2024)

Borehole reference:	pH (units)	Temp (°C)	DO (mg/l)	DO (%)	SPC ($\mu\text{s cm}^{-1}$)	ORP (mV)	Total Dissolved Solids (mg/l)
RBH601 (s)	5.88-6.01	10.2	5.61-9.19	47.2-82.9	0.4201-0.4658	84.6-91.9	0.2990-0.3021
RBH601 (d)	5.95-6.76	10.2-10.4	5.00-6.74	44.7-62.8	0.4608-0.8470	40.5-89.7	0.2980-0.4743
RBH602	7.02	11.7	0.16-0.19	1.5-1.8	1.177-1.178	-88.8(-)-86.6	0.7650-0.7670
RBH603 (s)	5.85-5.88	9.4-9.5	0.47-1.55	4.2-13.6	0.4110-0.4126	50.8-65.0	0.2674-0.2875
RBH603 (d)	5.87-5.95	9.6-10.1	2.80-3.27	25.0-29.1	0.4244-0.4337	60.9-70.1	0.2754-0.2811
RBH604 (s)	5.78	10.9	3.68-3.78	33.1-33.8	0.942-0.943	65.1-65.3	0.605-0.613
RBH604 (d)	5.75-5.85	10.6-11.2	4.22-5.11	34.2-47.9	0.909-0.963	66.0-74.9	0.5920-0.6210
RBH605	5.47-6.55	10.3-10.4	1.15-4.08	10.8-38.4	0.2799-0.2937	2.2-25.4	0.1814-0.2039
RBH606 (s)	6.54-6.55	10.5	0.57-1.00	5.2-9.0	0.758-0.767	-41.8(-)-40.3	0.4920-0.4980
RBH606 (d)	6.3	11	0.75-1.18	6.7-10.7	0.524-0.525	5.2-5.5	0.3407-0.3418
RBH607	6.41-6.45	9.4-10.3	0.43-4.00	3.6-54.9	0.936-0.986	22.7-42.1	0.6250-0.6300
RBH608	6	8.8-9.0	0.49-0.75	4.1-6.4	0.49	68.4-68.5	0.3183-0.3186
RBH609 (s)	6.92	9.2	0.32-0.39	2.7-2.9	1.272-1.278	-91.2(-)-90.6	0.8270-0.8300
RBH609 (d)	6.74-6.94	9.9-10.0	2.74-3.77	18.8-27.7	0.971-1.005	0.7-9.1	0.6280-0.6530
RBH610 (d)	6.14-6.16	10.4	7.06-9.41	67.1-83.2	0.2078-0.3444	1.1-21.8	0.1341-0.2281
RBH612	6.71-6.72	10.0	0.40-0.59	3.3-3.5	1.043-1.053	-19.7(-)-15.7	0.6830-0.6850
RBH613	6.69-6.71	10.2	0.81-1.45	7.1-13.3	0.636-0.643	-40.2(-)-29.7	0.4133-0.4179

Borehole reference:	pH (units)	Temp (°C)	DO (mg/l)	DO (%)	SPC ($\mu\text{s cm}^{-1}$)	ORP (mV)	Total Dissolved Solids (mg/l)
RBH614 (s)	6.89-6.91	9.8	0.51-1.88	4.9-14.5	0.849	-84.7(-)-75.7	0.5520
RBH614 (d)	6.95	10.3	0.40-0.43	2.9-3.7	0.617-0.618	-108.1(-)-107.4	0.4015-0.4022
RBH615 (s)	6.64-6.65	9.4-9.5	0.89-4.01	7.8-35.0	0.899-0.900	-85.2(-)-84.7	0.5850
RBH615 (d)	6.65-6.81	9.8-10.5	1.53-4.04	13.6-36.0	0.566-0.584	-106.1(-)-51.2	0.3680-0.3793
RBH320	6.86-6.87	8.7-8.9	0.75-1.52	6.4-13.3	0.867-0.974	-86.5(-)-77.8	0.5630-0.6340
RBH321	6.22-6.23	9.7-9.8	0.93-1.35	7.7-12	0.3286-0.5150	-79.0(-)-71.2	0.2180-0.3142

4.6.2. Observations of potential contamination indicators were as follows:

- RBH609 (shallow): Strong, sweet, chemical odour; grey sediment
- RBH615 (shallow): Slight, sweet, chemical odour
- RBH615 (deep): Slight, sweet, chemical odour
- RBH320: Strong, sweet, chemical odour; black sediment
- RBH321: Moderately strong, sweet, chemical odour

4.6.3. These wells are all located within the Ph2B and that there was no olfactory evidence of contamination indicators during sampling within the reservoir. A plan showing the contamination indicators encountered during both groundwater sampling exercises is appended to the report (Drawing ref: 002).

4.7. Groundwater Levels

4.7.1. During both the well development works on the 10th/11th January 2024 and the groundwater sampling exercises on the 24th/25th January 2024 and 3rd/4th April 2024, the depths to groundwater were recorded in the viable wells with exception of entry RBH605 which was omitted in error during the first groundwater monitoring round. The groundwater depths were also not measured in the shallow wells of RBH610 and RBH611 during the groundwater sampling exercises as samples were not collected from either of these installations.

4.7.2. The measured depths to groundwater are summarised in Table 4.3 below as well as the groundwater depths above ordnance datum (AOD) which have been calculated using the URL survey data of the ground levels at the various borehole locations. This information is also summarised in the appended Groundwater Levels drawings (drawing refs: 003A & 003B) with reference to the response zones of the monitoring wells and their relative position to the coal layer (where present). RBH320 and RBH321 are not included in the table / drawings due to the absence of ground level data at both locations.

Table 4.3: Groundwater Levels Recorded During Well Development and Sampling Exercises

Borehole reference:	Ground Level at BH Location (M AOD)	Depth to GW 10-11.01.24 (m bgl)	Depth to GW 10-11.01.24 (m AOD)	Depth to GW 24-25.01.24 (m bgl)	Depth to GW 24-25.01.24 (m AOD)	Depth to GW 03-04.04.24 (m bgl)	Depth to GW 03-04.04.24 (m AOD)
RBH601(s)	148.924	0.59	148.334	0.61	148.314	0.34	148.584
RBH601(d)	148.924	0.52	148.404	0.52	148.404	0.82	148.104
RBH602	148.031	2.45	145.581	2.26	145.771	2.44	145.591
RBH603(s)	147.304	0.43	146.874	0.23	147.074	0.53	146.774
RBH603(d)	147.304	Artesian	Artesian	Artesian	Artesian	Artesian	Artesian
RBH604(s)	147.396	Artesian	Artesian	Artesian	Artesian	Artesian	Artesian
RBH604(d)	147.396	Artesian	Artesian	Artesian	Artesian	Artesian	Artesian
RBH605	147.759	2.08	145.679	NR	NR	2.47	145.289
RBH606(s)	147.318	1.54	145.778	2.2	145.118	1.78	145.538
RBH606(d)	147.318	1.77	145.548	1.19	146.128	3.33	143.988
RBH607	148.007	0.98	147.027	1.37	146.637	2.42	145.587
RBH608	143.909	0.68	143.229	0.25	143.659	0.84	143.069
RBH609(s)	151.201	2.82	148.381	2.6	148.601	3.36	147.841
RBH609(d)	151.201	2.53	148.671	2.8	148.401	2.61	148.591
RBH610(s)	150.415	1.93	148.485	NR	NR	NR	NR
RBH610(d)	150.415	1.91	148.505	2.1	148.315	2.23	148.185
RBH611(s)	150.179	1.86	148.319	NR	NR	NR	NR
RBH611(d)	150.415	UTR (Well blocked)	UTR (Well blocked)	UTR (Well blocked)	UTR (Well blocked)	UTR (Well blocked)	UTR (Well blocked)
RBH612	148.421	1.81	146.611	1.75	146.671	1.98	146.441
RBH613	147.55	2.58	144.97	3.16	144.39	1.21	146.340
RBH614(s)	150.108	2.03	148.078	2.21	147.898	2.28	147.828
RBH614(d)	150.108	1.96	148.148	2.13	147.978	2.18	147.928
RBH615(s)	151.078	2.37	148.708	2.61	148.468	2.59	148.488
RBH615(d)	151.078	2.38	148.698	2.59	148.488	2.52	148.558

(s) = Shallow well

(d) = Deep Well

NR = Not recorded

UTR = Unable to record

5. Results of Laboratory Analysis

5.1. Comparison of Contaminant Concentrations Against Corresponding Threshold Criteria

5.1.1. The results of the groundwater sampling are summarised in Table 5.1 below. Where applicable, the results are compared to RTVs. These are draft RTVs values which are subject to regulatory review, however for the purposes of ascertaining the extent of the plume etc. they are considered appropriate. Any requirements to update the RTVs will require this report to be updated accordingly.

5.1.2. Where site-specific criteria are unavailable, other criteria have been utilised where applicable, including:

- the National UK Environmental Quality Standards (EQS): Annual Average (AA) / Maximum Allowable Concentration (MAC) for freshwaters;
- World Health Organization (WHO) drinking standards;
- In the absence of an EQS or WHO standard, reference has been made to standards for drinking water protected areas or from the Water Supply (Water Quality) Regulations 2000, typically referred to as the UK Drinking Water Standards (UK DWS); and,
- criteria provided by the United States Environmental Protection Agency (USEPA) for Glycols.

5.1.3. It is noted that these are particularly conservative and there is no compliance point applied, therefore they are not necessarily directly applicable to risks posed to receptors associated with the Site itself.

5.1.4. Results for speciated phenols, SVOCs and VOCs are only reported where detected above laboratory detection limits and TICs are only reported if they are not hydrocarbons which would be contained within the speciated aliphatic / aromatic hydrocarbon bandings listed below.

5.1.5. Other determinants were also analysed but have not been included in the table as these were scheduled for GeoChem Ltd. to assist in their work to determine aquifer conditions, not to determine contaminant concentrations.

5.1.6. The full set of chemical results (Element Materials Technology report refs: 24/1306 and 24/5682) are provided in Appendix E.

Table 5.1 Summary of Ground Water Monitoring Results

Determinant	Number of samples	Range of Concentrations (µg/l, unless specified)	Quality standard adopted and concentration (µg /l, unless specified)	Exceedances
Polyaromatic Hydrocarbons				
Naphthalene	46	<0.1-33	EQS (AA) 2	Both rounds: RBH609(S), RBH320 & RBH321 Apr 24 only: RBH614(D)
			EQS (MAC) 130	None
Acenaphthylene	46	<0.005-0.025	N/A	N/A
Acenaphthene	46	<0.005-1.904	N/A	N/A
Fluorene	46	<0.005-1.145	N/A	N/A
Phenanthrene	46	<0.005-0.359	N/A	N/A
Anthracene	46	<0.005-0.051	EQS (AA/MAC) 0.1	None
Fluoranthene	46	<0.005-0.306	EQS (AA) 0.0063	Both rounds: RBH605, RBH606(D), RBH609(S), RBH613, RBH614(S), RBH614(D) & RBH615(D) Jan 24 only: RBH615(S) & RBH321 Apr 24 only: RBH602 & RBH612 – Apr 24
			EQS (MAC) 0.12	RBH614(S) – Jan 24
Pyrene	46	<0.005-0.07	N/A	N/A
Benzo(a)anthracene	46	<0.05-0.143	N/A	N/A
Chrysene	46	<0.005-0.200	N/A	N/A
Benzo(b)fluoranthene	46	<0.008-0.215	EQS (MAC) 0.017	Jan 24 only: RBH613, RBH614(S), & RBH321 Apr 24 only: RBH606(D)
Benzo(k)fluoranthene	46	<0.008-0.083	EQS (MAC) 0.017	Jan 24 only: RBH614(S) Apr 24 only RBH606(D)
Benzo(a)pyrene	46	<0.005-0.181	EQS (AA) 0.00017	Both rounds: RBH605, RBH606(D), RBH613 Jan 24 only: RBH614(S), RBH615(S) & RBH321 Apr 24 only: RBH612
			EQS (MAC) 0.27	None
Indeno(123cd)pyrene	46	<0.005-0.109	N/A	N/A
Dibenzo(ah)anthracene	46	<0.005-0.028	N/A	N/A
Benzo(ghi)perylene	46	<0.005-0.115	EQS (MAC) 0.0082	Both rounds: RBH606(D) Jan 24 only: RBH613, RBH614(S), RBH615(S) & RBH321 Apr 24 only: RBH602 & RBH605
			N/A	N/A
2-Methylnaphthalene	46	<1-6	N/A	N/A

Determinant	Number of samples	Range of Concentrations (µg/l, unless specified)	Quality standard adopted and concentration (µg /l, unless specified)	Exceedances
Speciated TPH Aliphatic / Aromatic Hydrocarbons				
Aliphatic C5-C6	46	<10-656	WHO 15,000	None
Aliphatic C6-C8	46	<10-17,363	SS 1,620,000	None
Aliphatic C8-C10	46	<10-9,407	No breakthrough at compliance point	None
Aliphatic C10-C12	46	<5-54	No breakthrough at compliance point	None
Aliphatic C12-C16	46	<10	WHO 300	None
Aliphatic C16-C21	46	<10	N/A	N/A
Aliphatic C21-C35	46	<10	N/A	N/A
Aromatic C5-C7	46	<10-74	SS 53.3 (benzene marker compound)	Apr 24 only: RBH320
Aromatic C7-C8	46	<10-56,719	SS 1,340 (toluene marker compound)	Both rounds: RBH609(S), RBH609(D), RBH320 & RBH321 Jan 24 only: RBH603(S)
Aromatic C8-C10	46	<10-46,625	SS 12,600 (Xylene marker compound)	Both rounds: RBH609(S) & RBH320 Jan 24 only: RBH321.
Aromatic C10-C12	46	<5-676	1.16 x 10 ⁷ mg/l (i.e. no reasonable breakthrough at compliance point)	None
Aromatic C12-C16	46	<10-50	WHO 90	None
Aromatic C16-C21	46	<10	WHO 90	None
Aromatic C21-C35	46	<10	WHO 90	None
BTEX				
Benzene	46	<0.5-88.5	SS 53.3	Both rounds: RBH320
Toluene	46	<5-61,942	SS 1,340	Both rounds: RBH609(S), RBH320 & RBH321 Jan 24 only: RBH609(D), Apr 24 only: RBH603(S)
Ethylbenzene	46	<1-8,207	SS 5,520	Both Rounds: RBH609(S) & RBH320 Jan 24 only: RBH321
m/p-Xylene	46	<2-29,765	EQS (AA) 30	Both Rounds: RBH609(S), RBH609(D), RBH614(D), RBH320 & RBH321 Apr 24 only: RBH603(S), RBH614(S) & RBH615(D)
o-Xylene	46	<1-6,455	EQS (AA) 30	Both rounds: RBH609(S), RBH609(D), RBH320 & RBH321 Jan 24 only: RBH614(D) Apr 24 only: RBH603(S), RBH614(S) & RBH615(D)

Total Xylenes	46	<3 – 36,220	SS 9,320	Both rounds: RBH609(S) & RBH320 Jan 24 only: RBH321
Speciated Glycols				
Speciated glycols	23 (Jan only)	<50	USEPA 14,000	None
Phenols				
Phenol	46	<1-20	SS 1.43 x 10 ⁶ mg/l (l.e. no reasonable breakthrough at compliance point)	None
2-Methylphenol	46	<0.5-112.7	N/A	N/A
2,4-Dimethylphenol	46	<1-52	N/A	N/A
4-Methylphenol	46	<1-142	N/A	N/A
Resorcinol	46	<10-20	N/A	N/A
m/p-cresol	46	<20-230	N/A	N/A
o-cresol	46	<10-180	N/A	N/A
Xylenols	46	<60-90	N/A	N/A
Other SVOCs				
Dibenzofuran	46	<0.5-1	N/A	N/A
Carbazole	46	<0.5-0.6	N/A	N/A
SVOC TICs				
Cyclohexanone, 3,3,5-trimethyl	46	636 (1 detect – RBH609(S))	N/A	N/A
VOCs				
Dichlorodifluoromethane	46	<2-871	N/A	N/A
MTBE	46	<0.1-23	SS 60.7	None
Vinyl Chloride	46	<0.1-5.2	SS 1.02	Both rounds: RBH603(S), RBH610(D), RBH320 & RBH321 RBH609(S), RBH615(S),
Dichloromethane (DCM)	46	<3	SS 27,400	None
cis-1-2-Dichloroethene	46	<3-62	SS 171	None
Chloroform	46	<2-10	SS 76.6	None
1,1,1 - Trichloroethane	46	<2-3	EQS (AA) 100	None
Trichloroethene (TCE)	46	<3-23	SS 55.8	None
Tetrachloroethene (PCE)	46	<3-21	SS 129	None
Chlorobenzene	46	<2-72	WHO 300	None
Isopropylbenzene	46	<3-107	N/A	N/A
Propylbenzene	46	<3-181	N/A	N/A
1,3,5-Trimethylbenzene	46	<3-435	N/A	N/A
1,2,4-Trimethylbenzene	46	<3-1,409	N/A	N/A
tert-Butylbenzene	46	<3-21	N/A	N/A
sec-Butylbenzene	46	<3-15	N/A	N/A
n-Butylbenzene	46	<3-10	N/A	N/A
4-Isopropyltoluene	46	<3-13	N/A	N/A
Dichlorobenzene Isomers (total)	46	<3-<6	EQS (AA) 20	None
			EQS (MAC) 200	None
VOC TICs				
Acetone	46	105-154 (2 detects – RBH609(S) x2)	N/A	N/A

Methyl Isobutyl Ketone	46	121-373 (3 detects – RBH615(D) x2 & RBH320 – Apr 24)	N/A	N/A
Diisopropyl ether	46	282 (1 detect – RBH606(S) – Apr 24)	N/A	N/A
Isopropyl Alcohol	46	115 (1 detect – RBH609(S) – Jan 24)	N/A	N/A

Notes:

EQS: National Environmental Quality Standard for inland surface waters, annual average (AA) or maximum allowable concentration (MAC)

SS Site specific derived criteria derived by SGP for Level 3 assessment with a 100m compliance point and applied degradation within dissolved phase only (**draft RTVs generated August 2024**)

DWS UK Drinking Water Standards

WHO World Health Organisation

USEPA US Environmental Protection Agency criteria

* LOD > screening value

5.1.7. Exceedances have been reported for the following contaminants:

Elevated against site specific criteria:

- Aromatic hydrocarbons (C5-7, C7-C8 & C8-C10 bandings)
- Benzene
- Toluene
- Ethylbenzene
- Xylene-Total
- Vinyl Chloride

Elevated against EQS/WHO/DWS (direct values):

- Naphthalene
- Fluoranthene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzo(a)pyrene
- Benzo(ghi)perylene

5.1.8. With respect to the main contaminants of concern on the site (BTEX, Aromatic C7-10 hydrocarbons and vinyl chloride), the exceedances were typically concentrated in Phase 2B and just to the east of Phase 2B (entry RBH603(S)).

- 5.1.9. With exception of vinyl chloride which was detected at low levels even where exceedances were reported (max. 5.2µg/l), the highest concentrations of the abovementioned contaminants were consistently reported in entries RBH609 (shallow), RBH320 and RBH321 which have response zones in the Rough Rock sandstone above the coal layer. The most significant exceedances being for aromatic C7-8 hydrocarbons and toluene, with maximum concentrations over 42x the adopted criteria and 46x the adopted criteria, respectively. These contaminants were also identified in three of the deeper wells in the Phase 2B area (RBH609 (deep), RBH614 (deep) & RBH615 (deep)), however the concentrations were significantly lower, by 1 or 2 orders of magnitudes in some instances.
- 5.1.10. Exceedances of the EQS (AA and/or MAC) were also reported for several PAHs, the most notable of which demonstrating the highest concentrations being for naphthalene with exceedances in entries RBH320, RBH321 and RBH609 (shallow) where the most significant hydrocarbon, BTEX and VOC concentrations were reported. However, the exceedances were only for the EQS annual average (AA) criterion with no exceedances reported for the maximum admissible concentration (EQS (MAC) criterion).
- 5.1.11. Several exceedances of the EQS criteria as an annual average were also reported for the PAHs fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene and benzo(ghi)perylene; however, these were all very low-level (max. concentration of any individual compound = 0.306µg/l) and given their distribution across the site are unlikely to be associated with contamination on the site but as the result of the presence of coal which was described in nearly every entry.
- 5.1.12. Glycols were consistently below the laboratory limits of detection in all samples (only tested for during the January monitoring round).

6. Conclusions & Recommendations

6.1. Conclusions

- 6.1.1. With respect to the main contaminants of concern (light-end hydrocarbons, BTEX and VOCs / SVOCs), the groundwater results show that where exceedances for these determinants were reported, they were consistently highest within the shallow sandstone above the coal layer in the eastern part of Phase 2B (entries RBH320, RBH321 and RBH609 (shallow)), showing a strong degree of localisation.
- 6.1.2. The most significant exceedances reported in the abovementioned entries (where degradation in the dissolved phase has been applied) were for aromatic C7-8 hydrocarbons and toluene with maximum concentrations with maximum concentrations over 42x the adopted criteria and 46x the adopted criteria, respectively.
- 6.1.3. Some degree of contaminant migration below the coal layer in Phase 2B has been indicated with elevated concentrations of aromatic C7-C8 hydrocarbons, toluene, and vinyl chloride above the adopted criteria in entries RBH609 (deep) and RBH610 (deep). However, these are significantly reduced in comparison to the exceedances detected in the shallow wells of Phase 2B, by an order of 1 or 2 magnitudes in some instances.
- 6.1.4. The greatest distribution of exceedances for any one of the main chemicals of concern was for vinyl chloride reported in several wells within the Phase 2B area (RBH609 (shallow), RBH610 (deep), RBH320 & RBH321) as well as one entry located on the western edge of the former reservoir (RBH603 (shallow), and along the western edge in RBH615(S). The highest concentration was recorded within the identified plume area (RBH321) with the lowest concentration marginally exceeding the adopted criterion in entry RBH615. The greater distribution of this contaminant above screening criteria is likely the result of the stability of this compound (resulting in greater persistence within the environment), in conjunction with the very low screening value applied.
- 6.1.5. Exceedances of EQS criteria have been detected for other determinants, namely PAHs; however, given the distribution of these and the very low screening criteria applied, it is considered this is the result of naturally elevated concentrations. These are therefore not considered to be indicative of pollution on the site.
- 6.1.6. Speciated glycols were consistently below analytical detection limits in all samples collected as part of this investigation.

6.1.7. In summary, it is concluded that the contamination plume is highly localised to the Phase 2B area of the site. The only primary contaminants of concern detected outside of this area above criteria were low-level vinyl chloride, toluene and TPH aromatic C7-C8, on the western fringe of the former reservoir in entry RBH603 (shallow). The contamination appears to be particularly localised to the shallow sandstone above the coal in the eastern part of Phase 2B where the tanks of the former solvent recovery plant were previously located. It is additionally concluded that the results would suggest the band of coal / seatearth within the Rough Rock sandstone aquifer appears to be restricting vertical migration of organic contaminants.

6.2. Recommendations

6.2.1. Remediation of the Phase 2B area of the site to reduce hydrocarbon, BTEX and VOC groundwater concentrations to acceptable levels is required.

6.2.2. Following agreement of the derived RTVs with the EA, a remedial strategy containing an options appraisal will then be required outlining how the proposed treatment option(s) will reduce groundwater contaminant concentrations to the approved levels as detailed in the DQRA.

6.3. Limitations

Stratigraphy

6.3.1. The evidence of stratigraphy is taken from discrete borehole locations, and from factual information provided by other parties. Whilst it is usually reasonable to infer that similar conditions may extend between these locations, caution should be exercised, in particular where conflicting information has been highlighted during review of such information.

Contamination

6.3.2. The site investigation involved sampling at discrete locations, and it should be recognised that further areas or types of contamination may exist between investigation positions. The analyses performed are drawn from a typical suite of tests used to screen potentially contaminated land and specified to fall within the available budget made available for the site investigations. It is always possible that other substances may be present that have not been included within the standard range of tests.

Groundwater

6.3.3. Any comments made on groundwater conditions are based on observations or tests made at the time that the work was carried out. It should be noted that groundwater levels and concentrations of substances may vary according to seasonal or weather-related effects, sometimes in an unpredictable fashion.

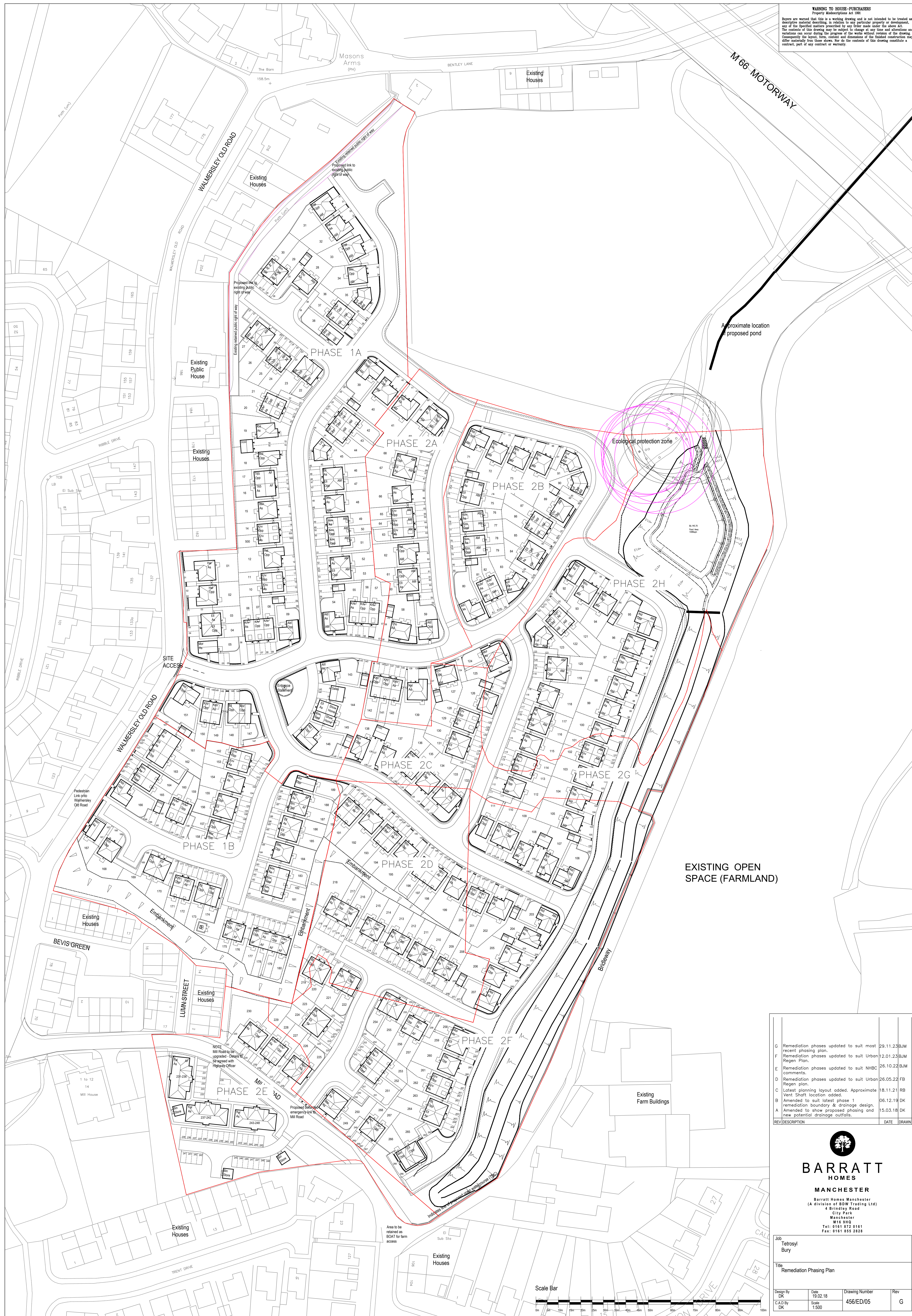
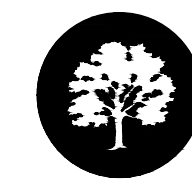
General

- 6.3.4. This report has been prepared by SGP for the sole and exclusive use of Barratt Homes Manchester. Reasonable skill, care and diligence has been exercised within the 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.
- 6.3.5. 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.

DRAWINGS

WARNING TO HOUSE-PURCHASERS
Property Misdescriptions Act 1991

Buyers are warned that this is a working drawing and is not intended to be treated as descriptive material describing, in relation to any particular property or development, any of the Specified matters prescribed by any Order made under the above Act. The contents of this drawing may be subject to change at any time and alterations or variations can occur during the progress of the works without revision of the drawing. Consequently the layout, form, content and dimensions of the finished construction may differ materially from those shown. Nor do the contents of this drawing constitute a contract, part of any contract or warranty.

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BARRATT
HOMES

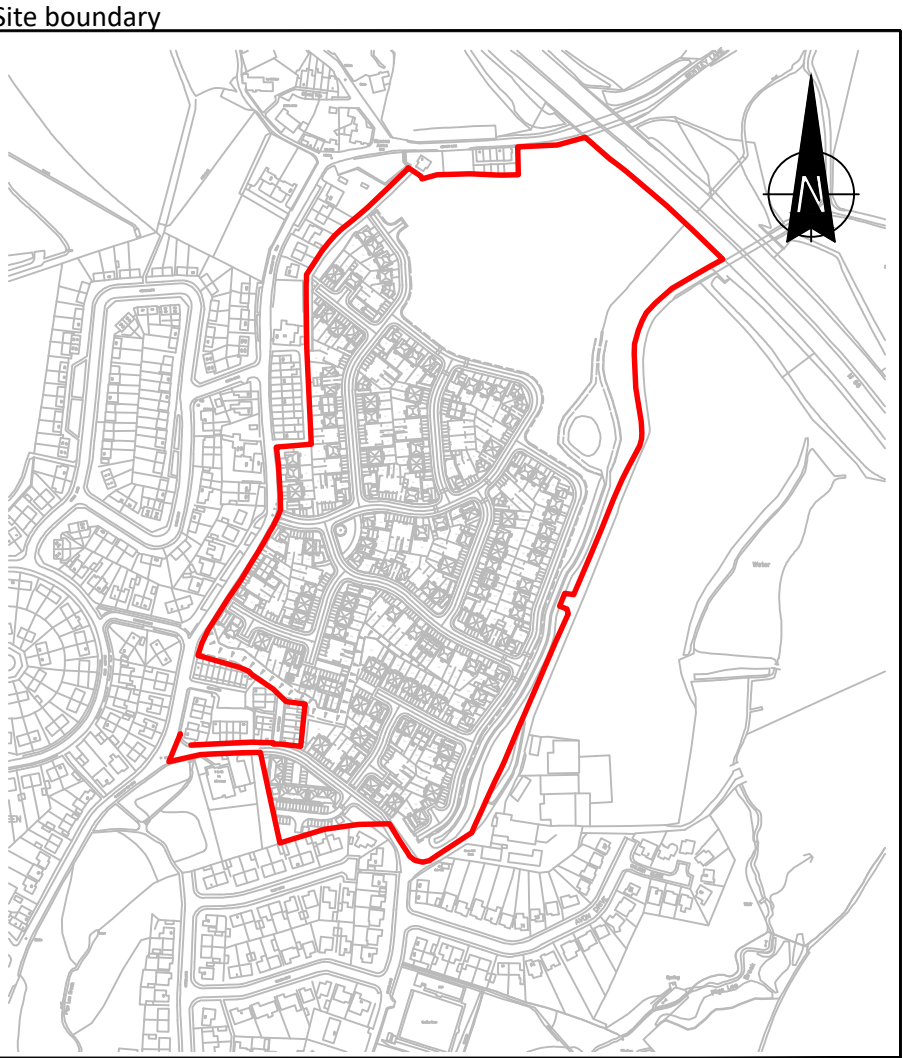
MANCHESTER

Barratt Homes Manchester
(A division of BDW Trading Ltd)
4 Brindley Road
City Park
Manchester
M16 9HQ
Tel: 0161 872 0161
Fax: 0161 855 2828

Job
Tetrosyl
Bury

Title	Remediation Phasing Plan
-------	--------------------------

Design By DK	Date 19.02.18	Drawing Number 456/ED/05	Rev G
C.A.D By DK	Scale 1:500		



Location Plan Scale 1:5000

Notes:	
Site boundary	
Borehole Locations	
Depth to coal layer (m AOD)	144.424-143.924

- Notes
- This plan is to be read in conjunction with the associated Completion Report.
 - The residential layout depicted on this plan is extracted from drawing '491-ED-08' supplied digitally by Barrat Homes Manchester.
 - Due to potential live services and issues associated with withdrawal of support, remediation works have been carried out to within circa 1m of the site boundary unless otherwise detailed.
 - All CBR tests were carried out by Murray Rix.

Survey Information:			
Co-ord System:	Co-ord Type:	Primary Survey Control:	Secondary Survey Control:
Local Grid	Grid	Leica SmartNet	Site

Rev	Date	Amendment	Drawn	Checked



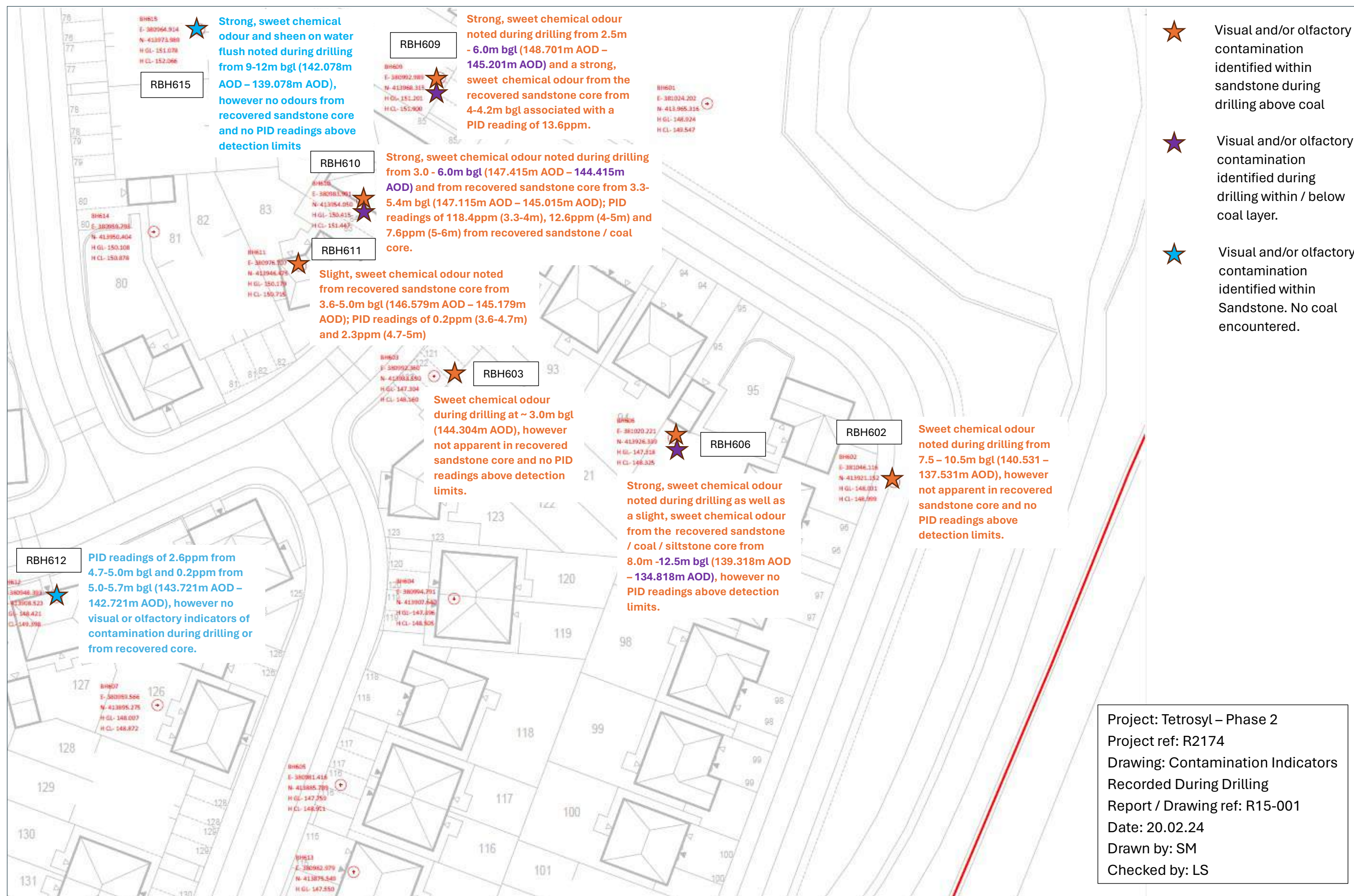
Client: Barratt Homes Manchester

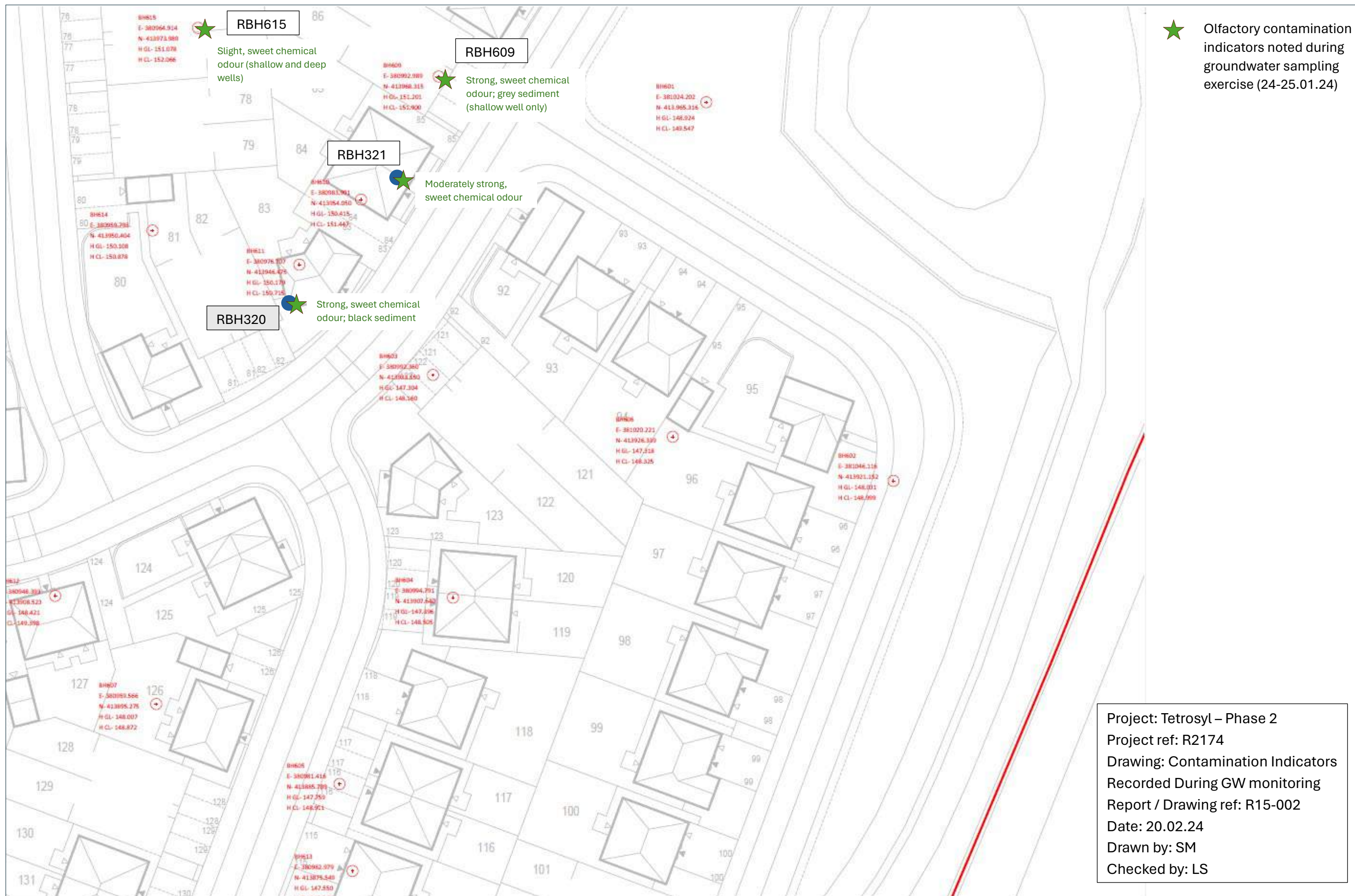
Project: Waldmers Wood Former Tetrosyl Works

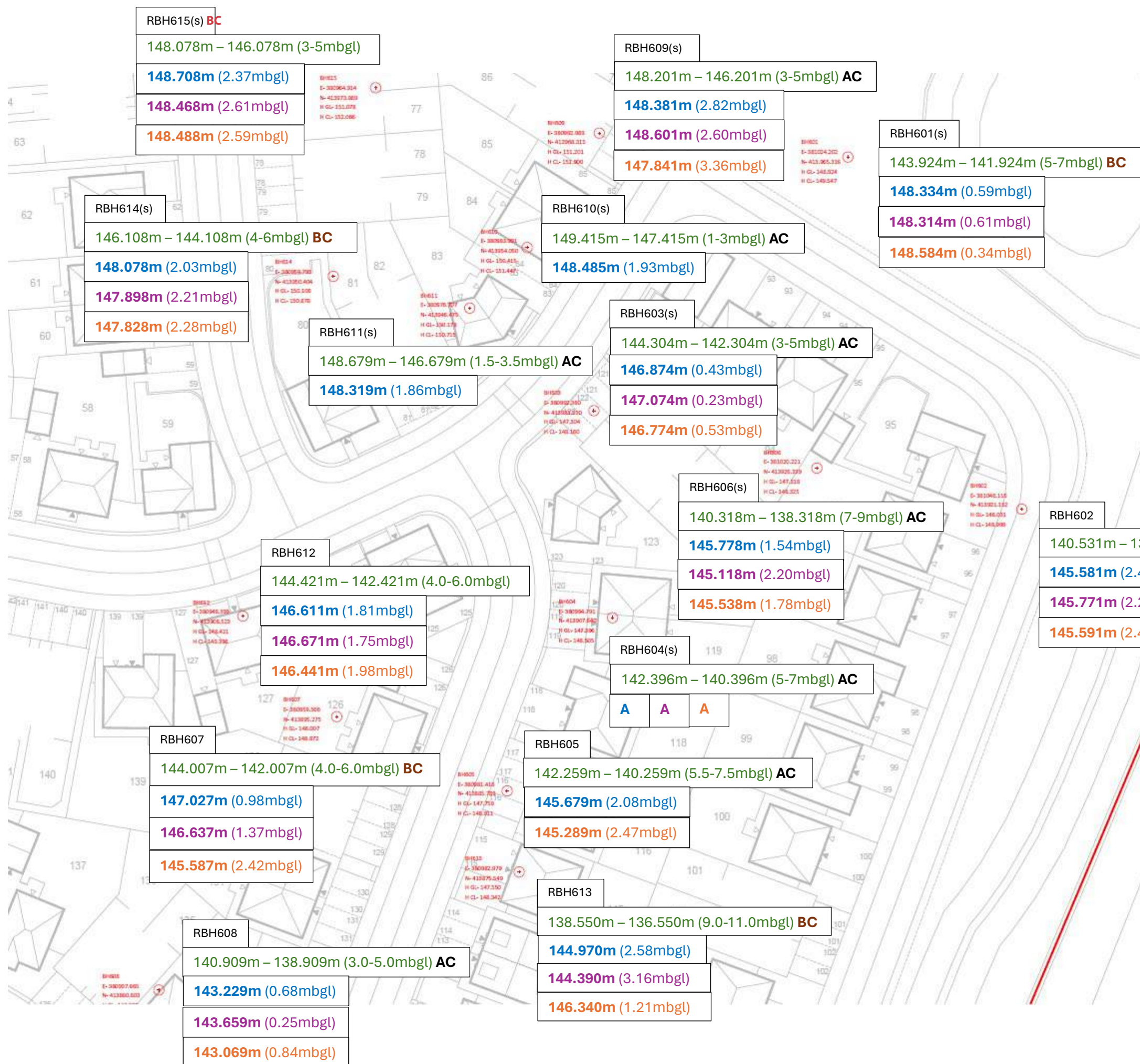
Title: Borehole Locations

Scale:	First Issue:	Drawn:	Checked:
1:200	12/01/2024	R. Corrigan	G. Bailey

Drawing No: 333/12/01/24







Key

143.924m

Well response zone
mAOD

148.334m

Groundwater level
mAOD (11-12.01.24)

148.314m

Groundwater level
mAOD (24-25.01.24)

148.314m

Groundwater level
mAOD (03-04.04.24)

A / A

Groundwater artesian

AC

Response zone of well
installation above coal

BC

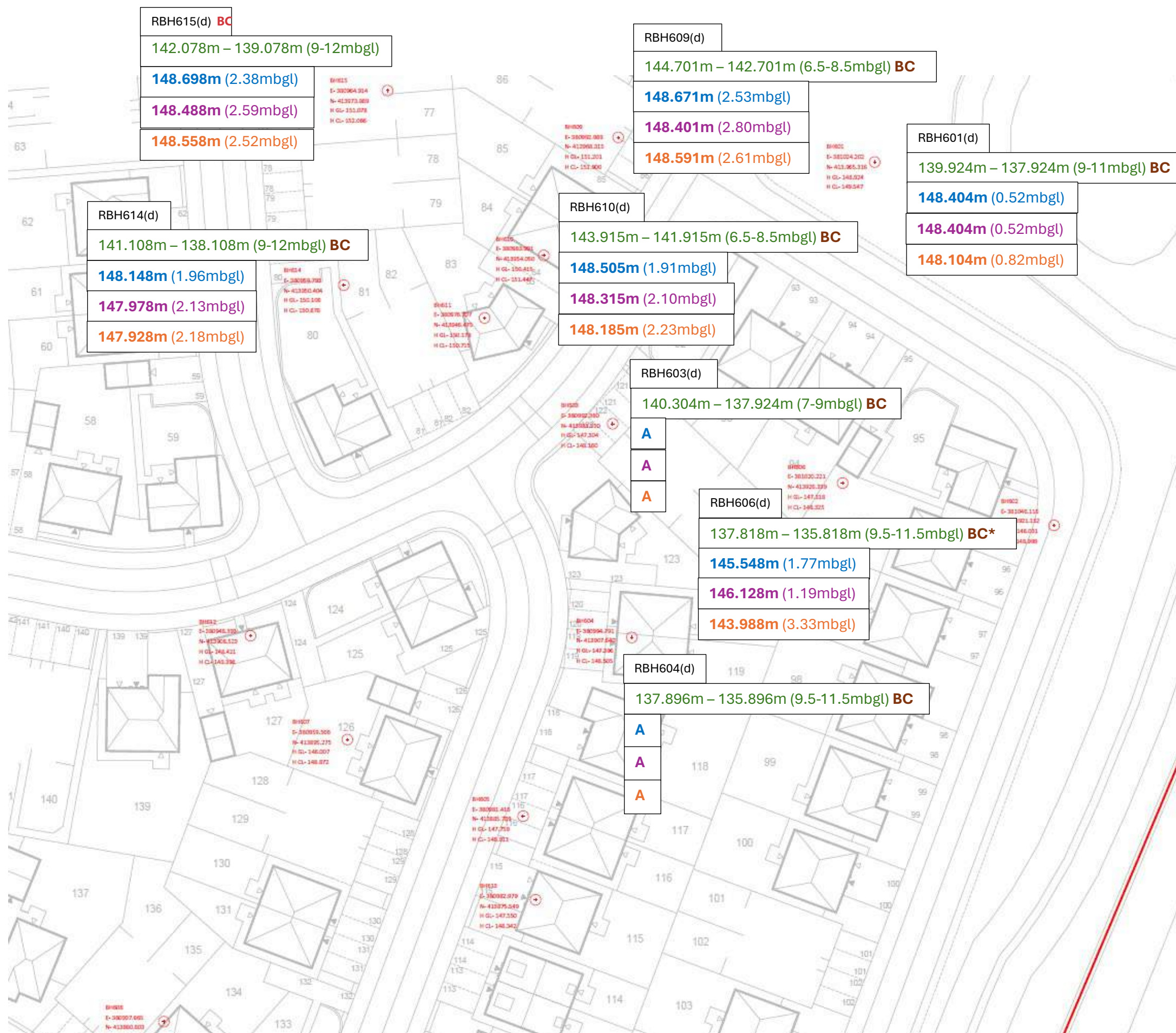
Response zone of well
installation below coal

Notes

No coal identified within RBH612 & RBH615, however suspected at between 2.6-3.4m bgl in RH615 (no recovery)

Coal within RBH613 comprises thin bands through sandstone

Project: Tetrosyl – Phase 2
Project ref: R2174
Drawing: Groundwater Levels
(Single / Shallow Wells)
Report / Drawing ref: R15-003A
Date: 26.04.24
Drawn by: SM
Checked by: LS



Key

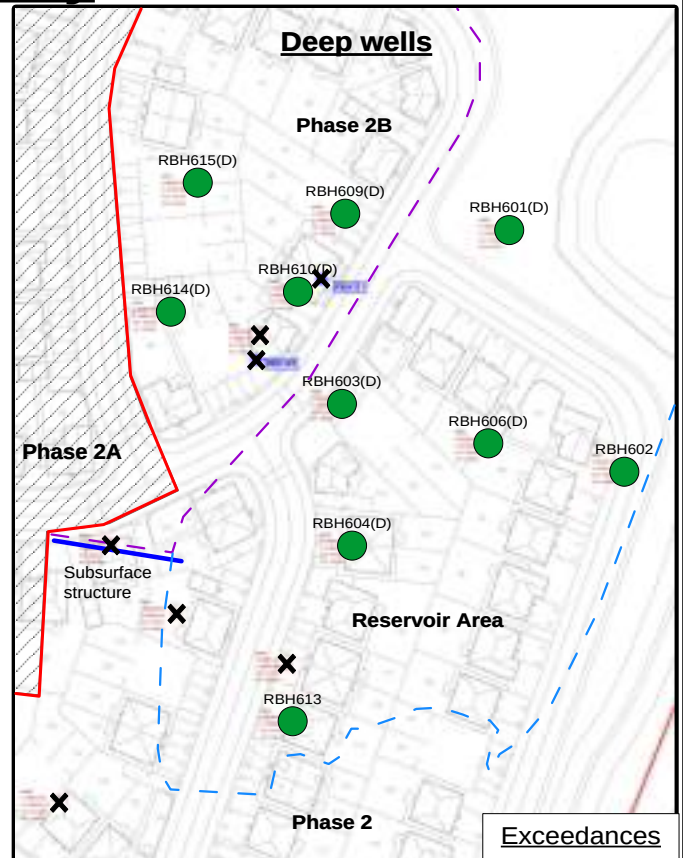
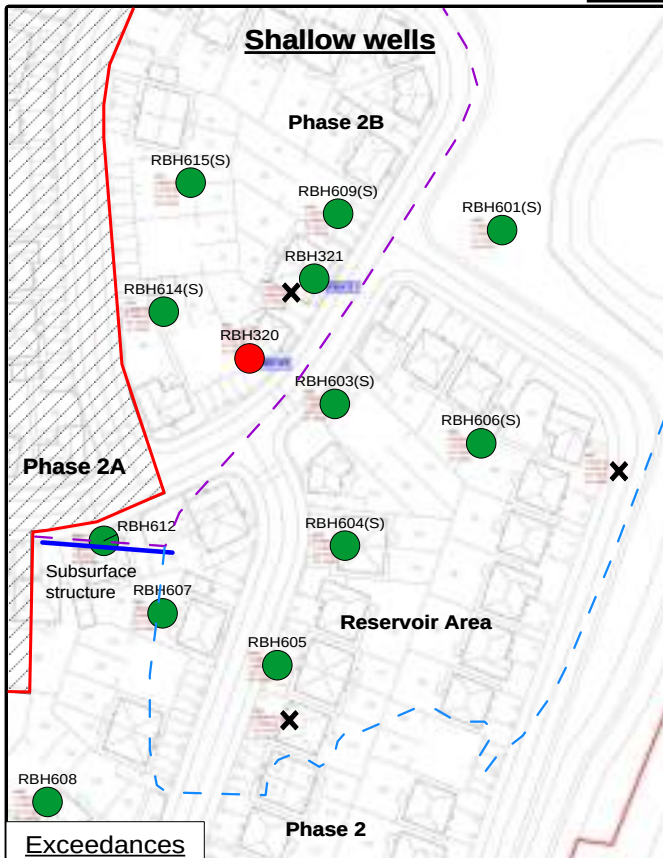
143.924m	Well response zone mAOD
148.334m	Groundwater level mAOD (11-12.01.24)
148.314m	Groundwater level mAOD (24-25.01.24)
148.314m	Groundwater level mAOD (03-04.04.24)
A / A	Groundwater artesian
BC	Response zone of well installation below coal
BC*	Response zone of well installation partially through & below coal

Notes

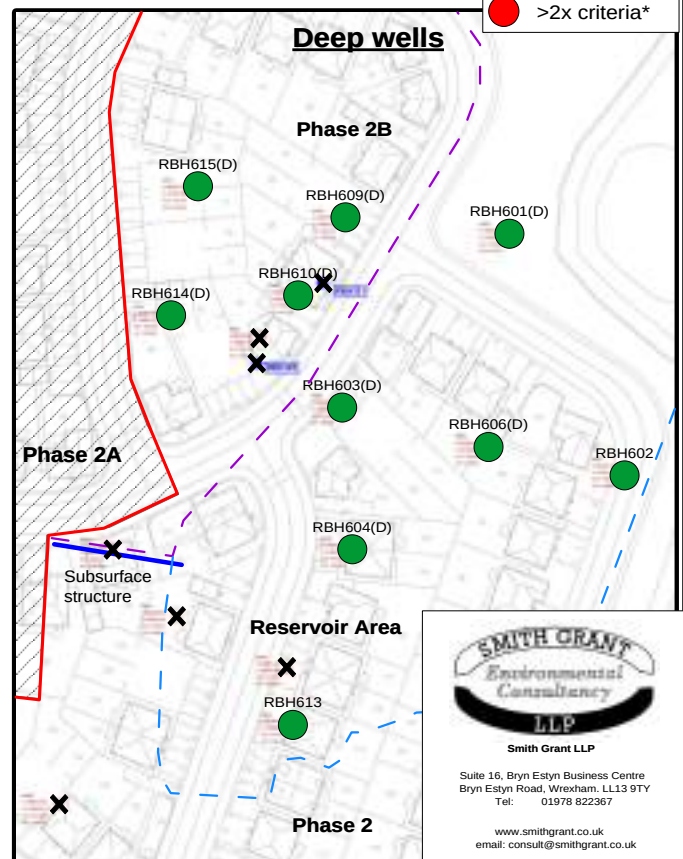
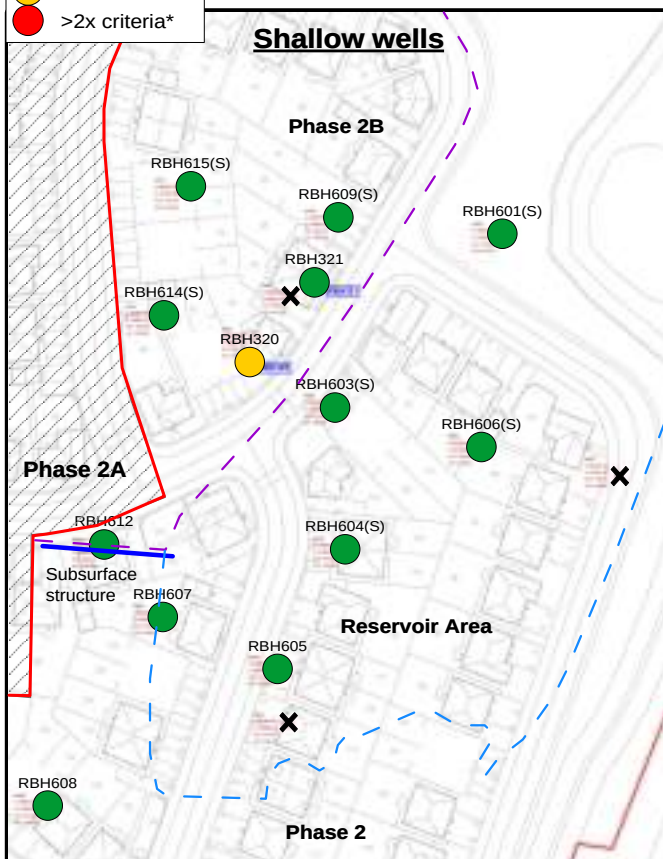
No coal confirmed within RBH615, however suspected at between 2.6-3.4m bgl (no recovery)

Project: Tetrosyl – Phase 2
Project ref: R2174
Drawing: Groundwater Levels (Deep Wells)
Report / Drawing ref: R15-003B
Date: 26.04.24
Drawn by: SM
Checked by: LS

January



April



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Bryn Estyn Road, Wrexham, LL13 9TY
Tel: 01978 822367

www.smithgrant.co.uk
email: consult@smithgrant.co.uk

Project:
Tetrosyl-Phase 2

Drawing:
Benzene exceedances
(with degradation)

Drawn by:
MJ

Checked:
LS

Date:
13.08.24

Report no:
R15

Job No:
R2174

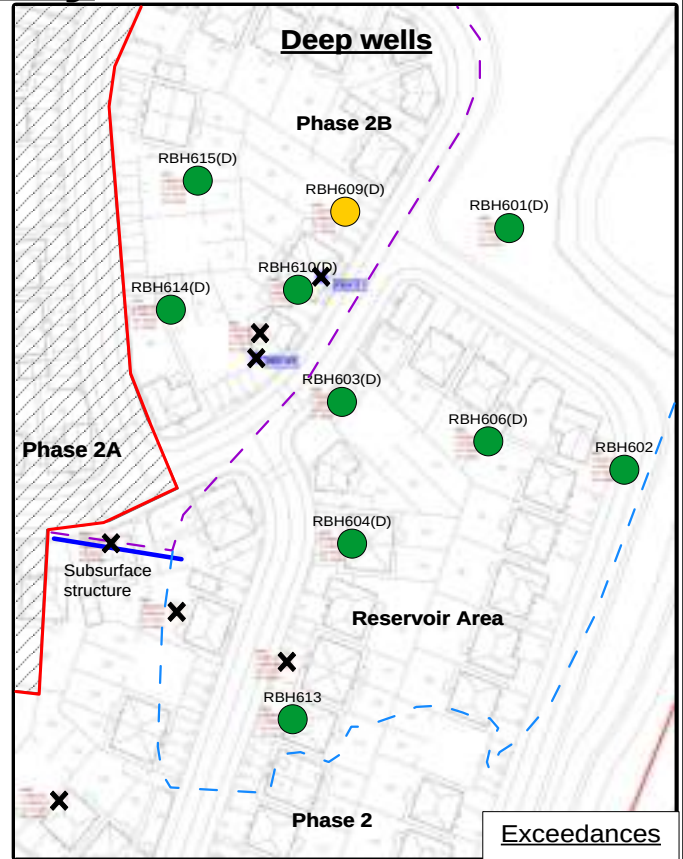
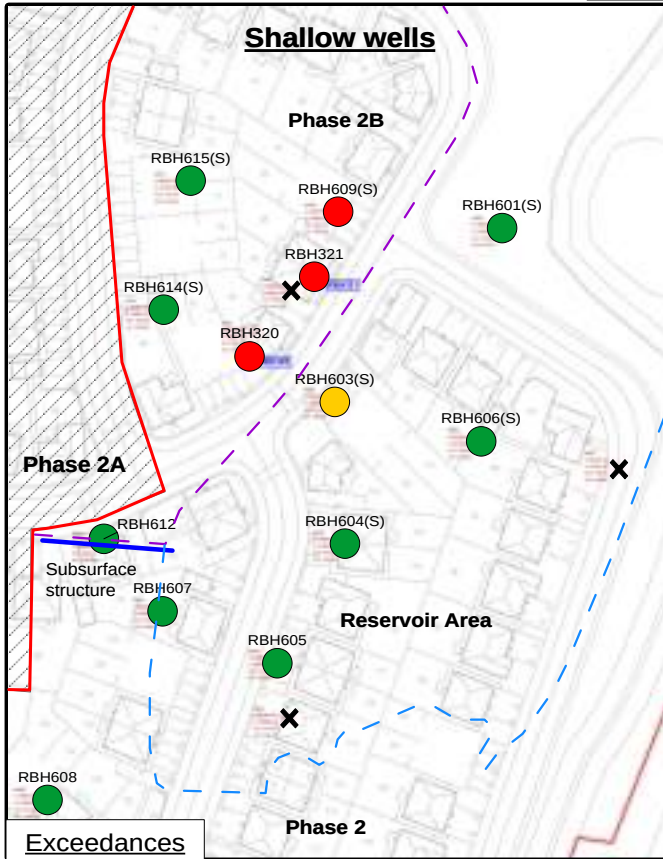
Drg No:
004

*Criteria value = 53.3 ug/L

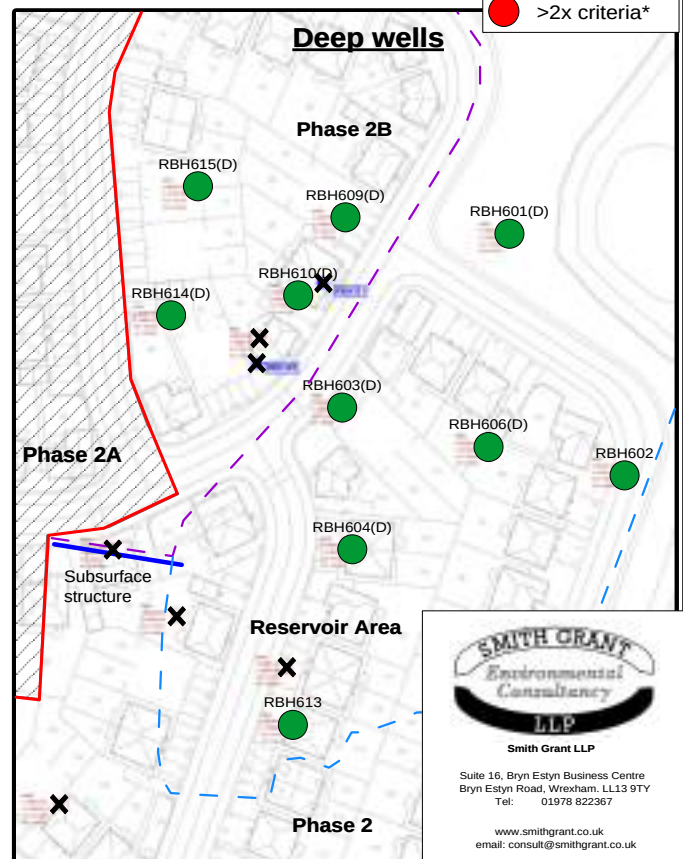
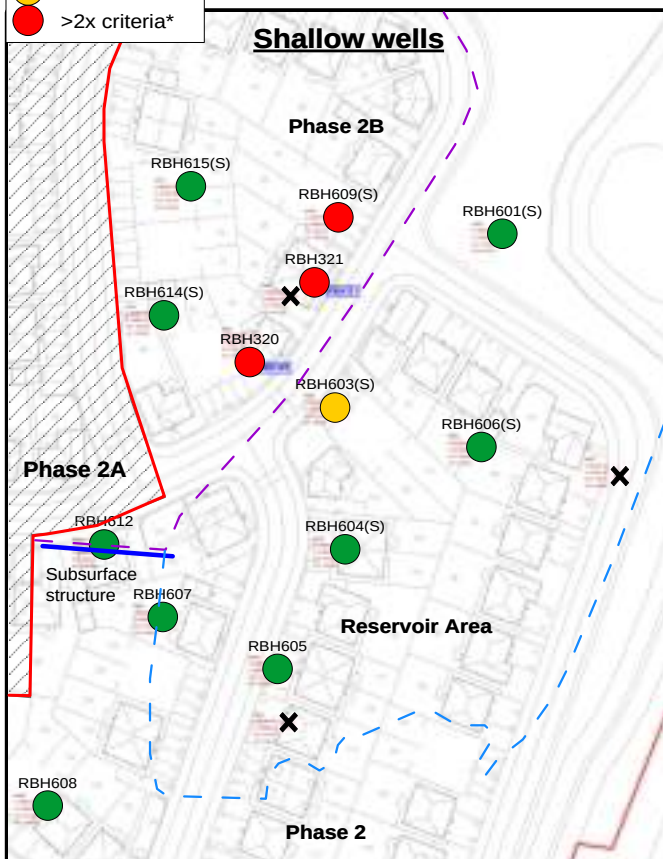
("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



April



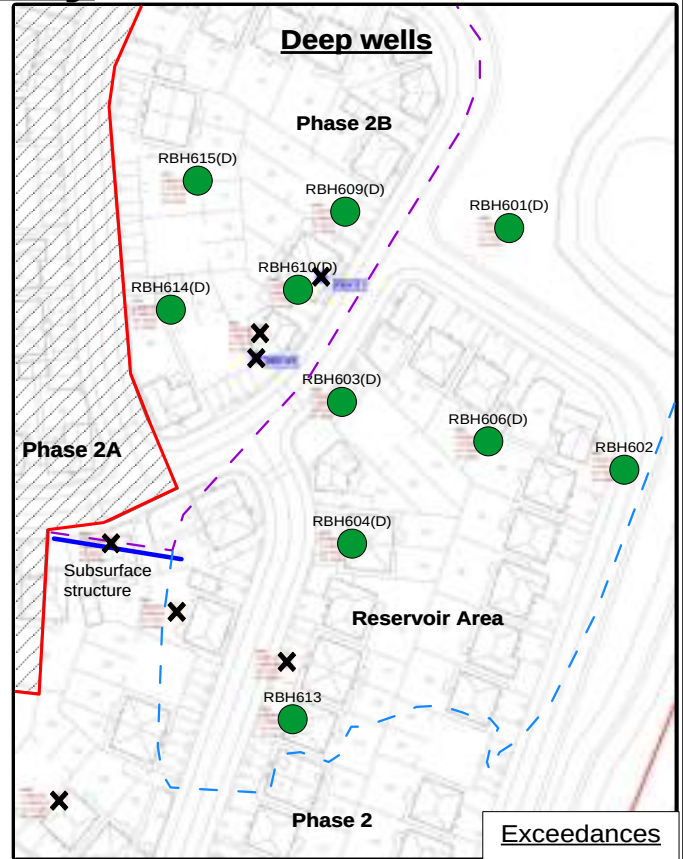
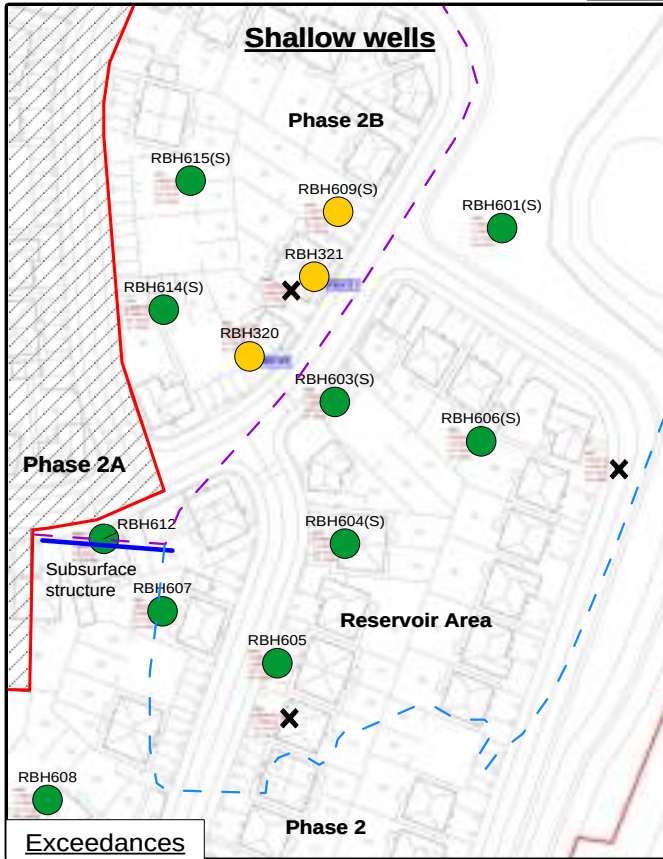
Smith Grant LLP
Suite 16, Bryn Estyn Business Centre
Bryn Estyn Road, Wrexham, LL13 9TY
Tel: 01978 822367
www.smithgrant.co.uk
email: consult@smithgrant.co.uk

Project: Tetrosyl-Phase 2	
Drawing: Toluene exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 005

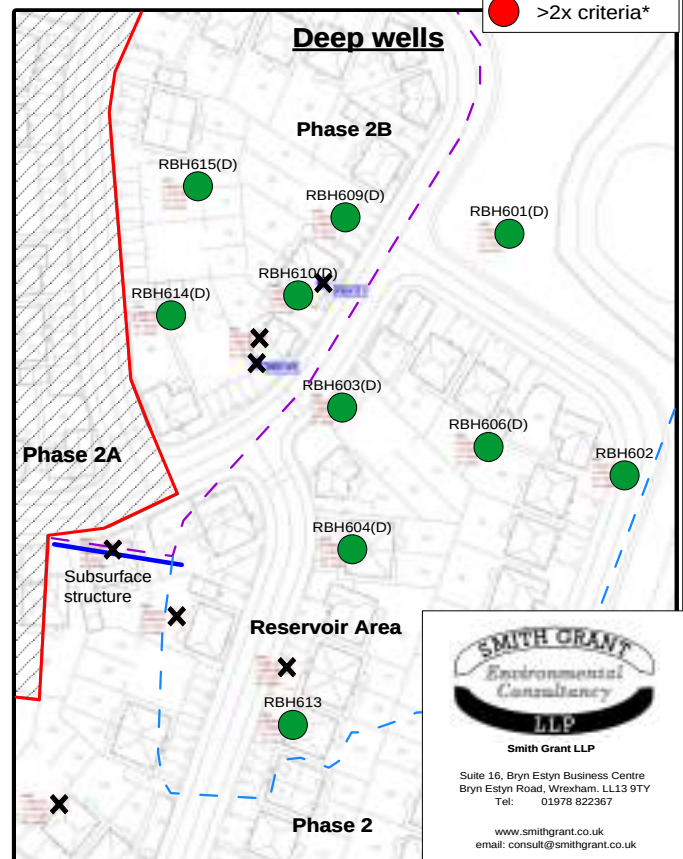
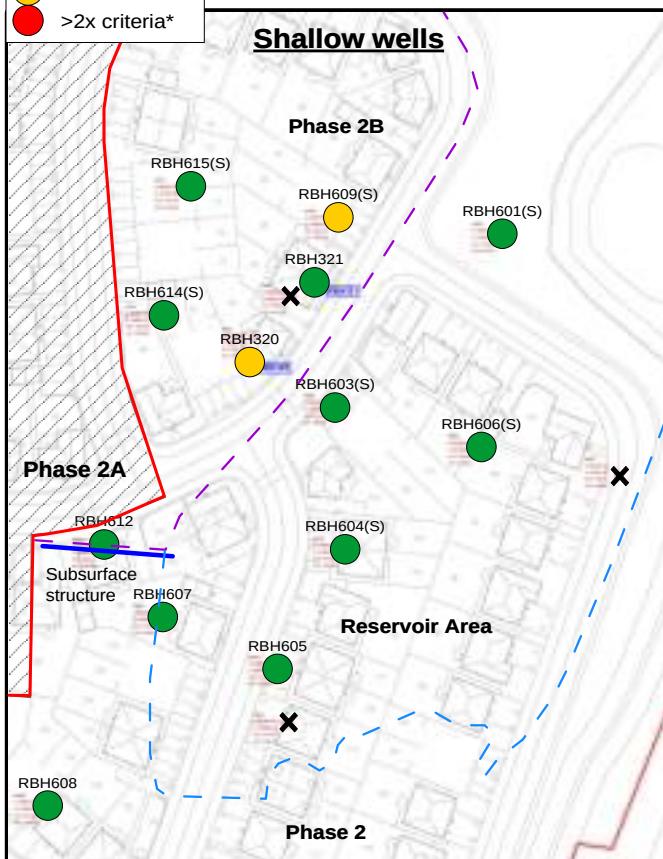
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("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



April



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Suite 16, Bryn Estyn Business Centre
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Tel: 01978 822367

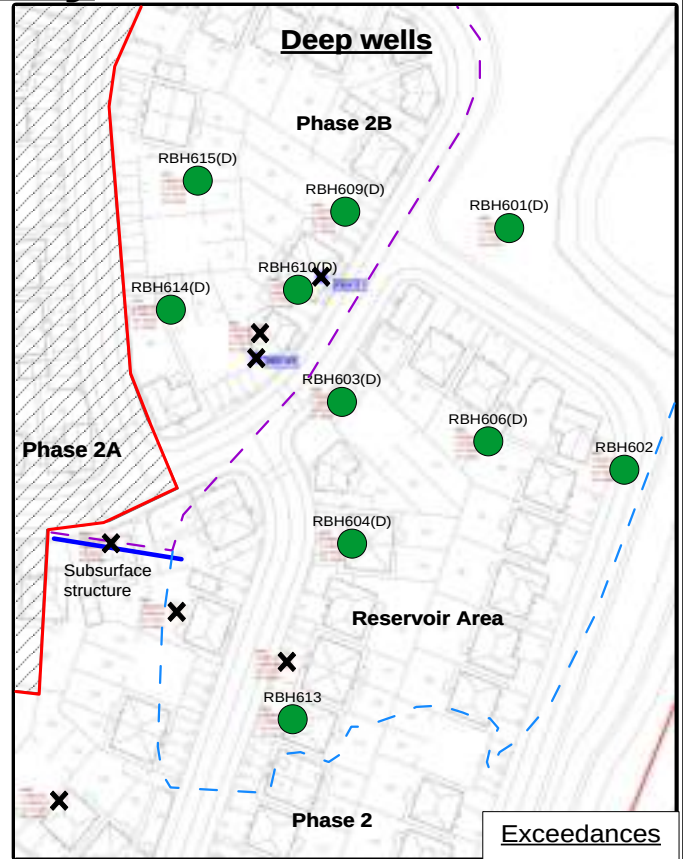
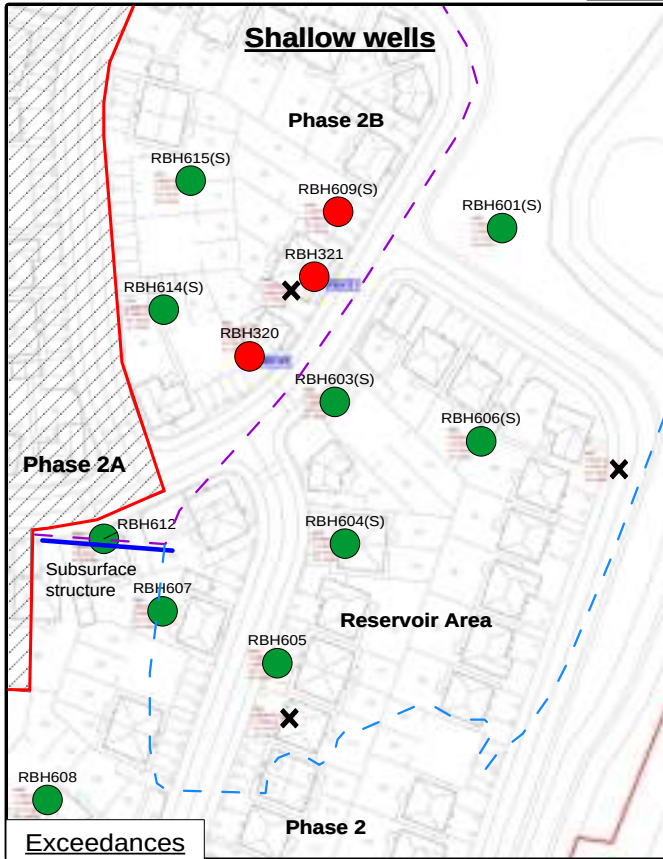
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email: consult@smithgrant.co.uk

Project: Tetrosyl-Phase 2	
Drawing: Ethylbenzene exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 006

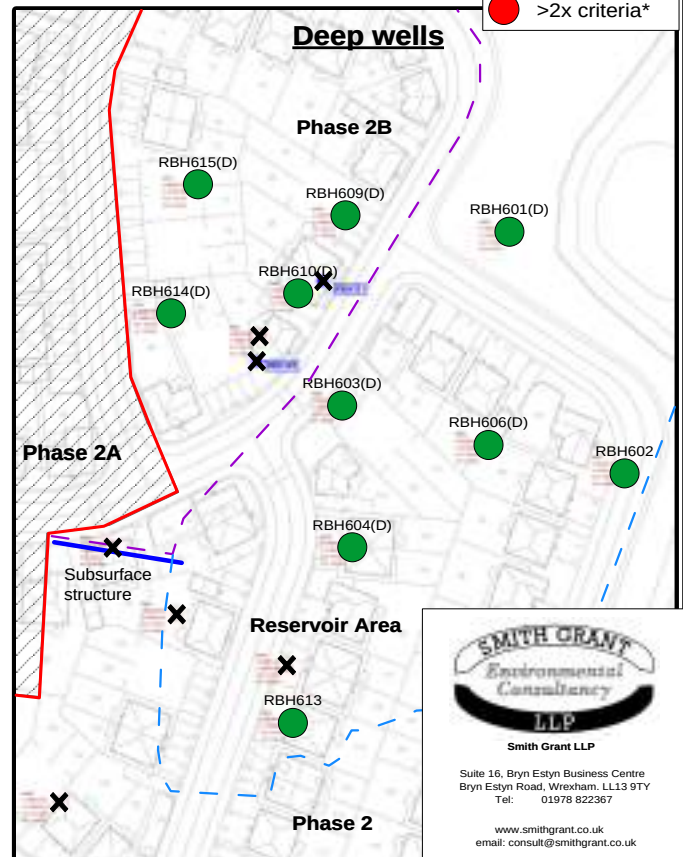
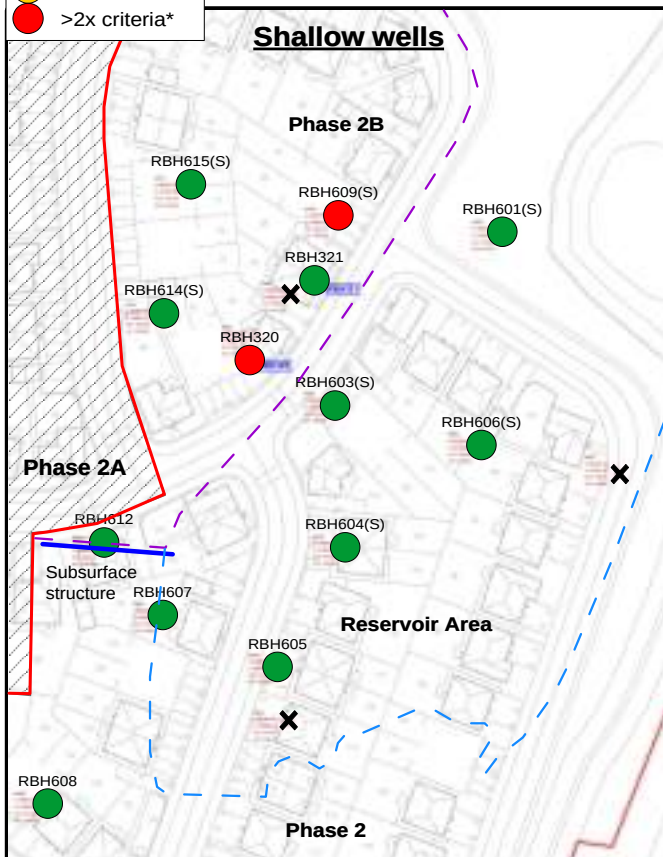
***Criteria value = 5,520 ug/L**
("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



April



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Tel: 01978 822367

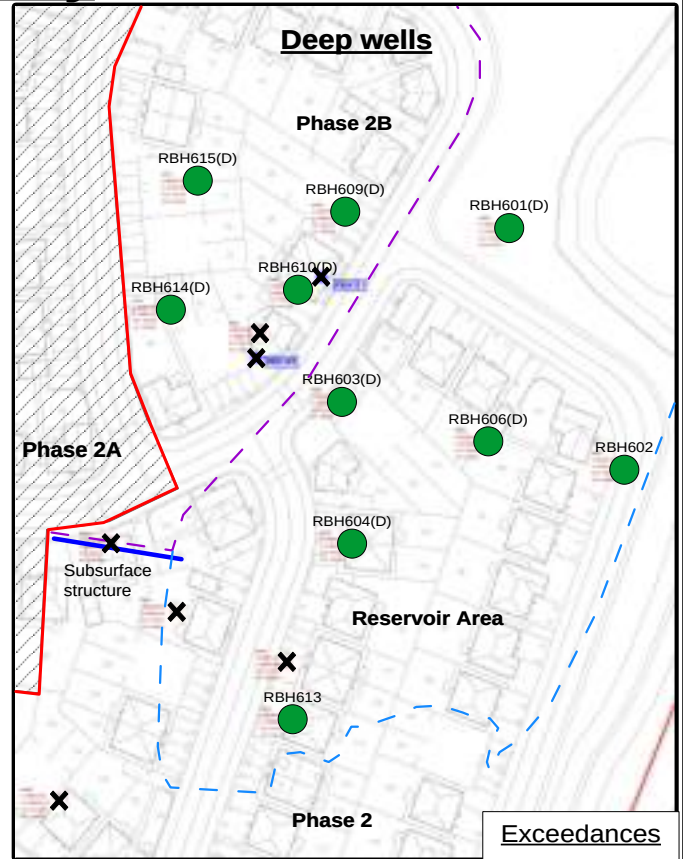
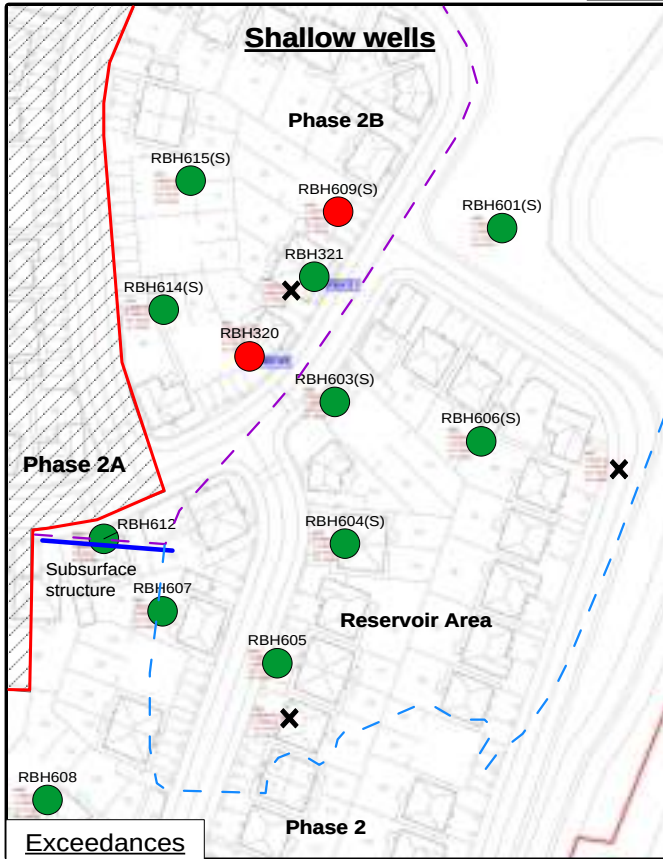
www.smithgrant.co.uk
email: consult@smithgrant.co.uk

Project: Tetrosyl-Phase 2	
Drawing: Total xylene exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 007

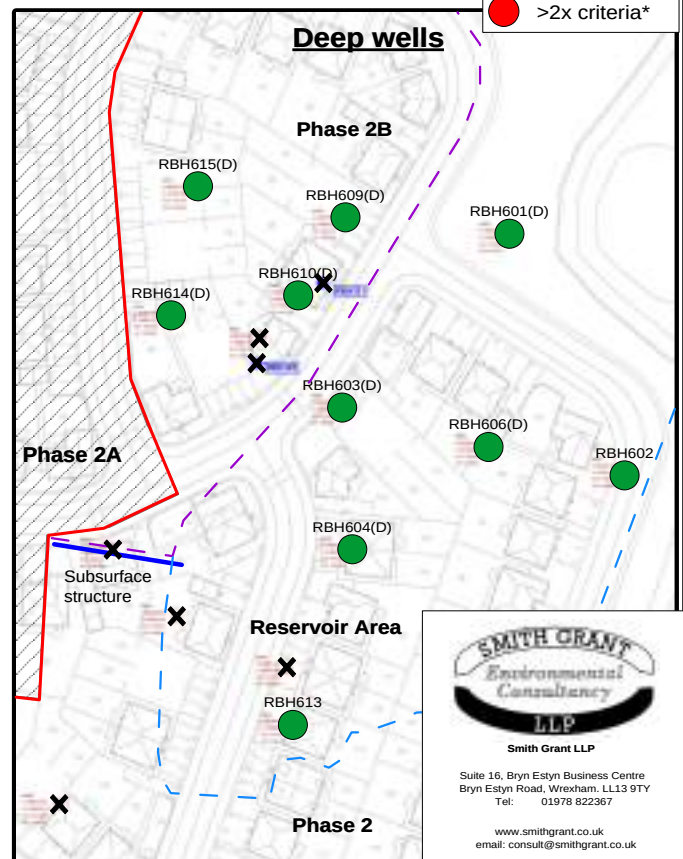
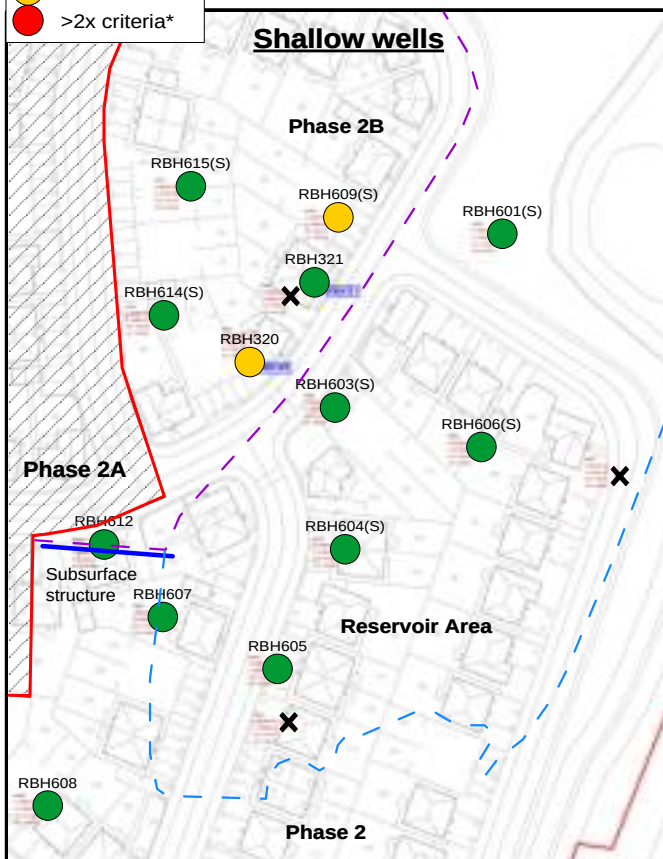
***Criteria value = 9,320 ug/L**
("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



April



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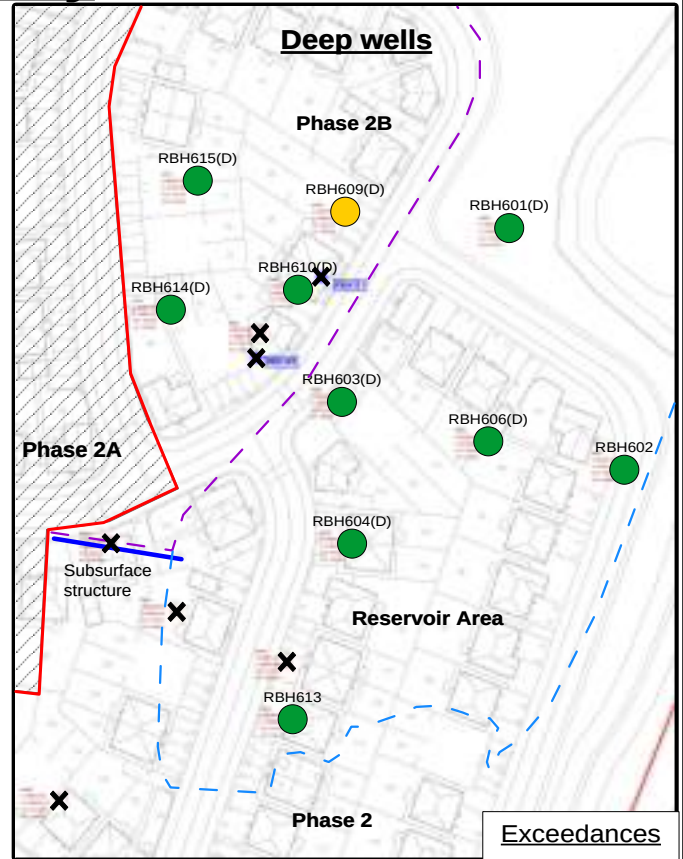
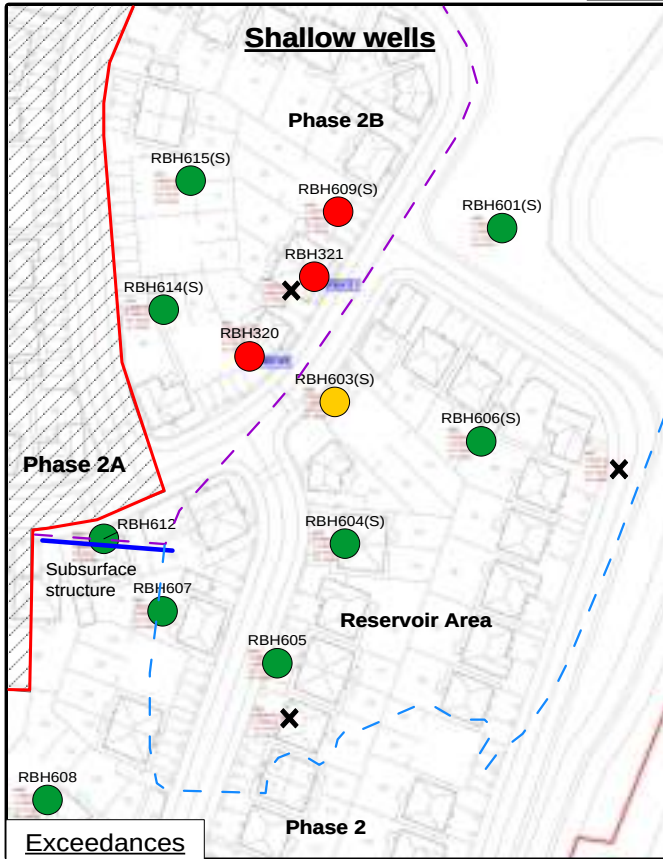
Project: Tetrosyl-Phase 2	
Drawing: Aromatic (EC5-EC7) exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 008

*Criteria value = 53.3 ug/L

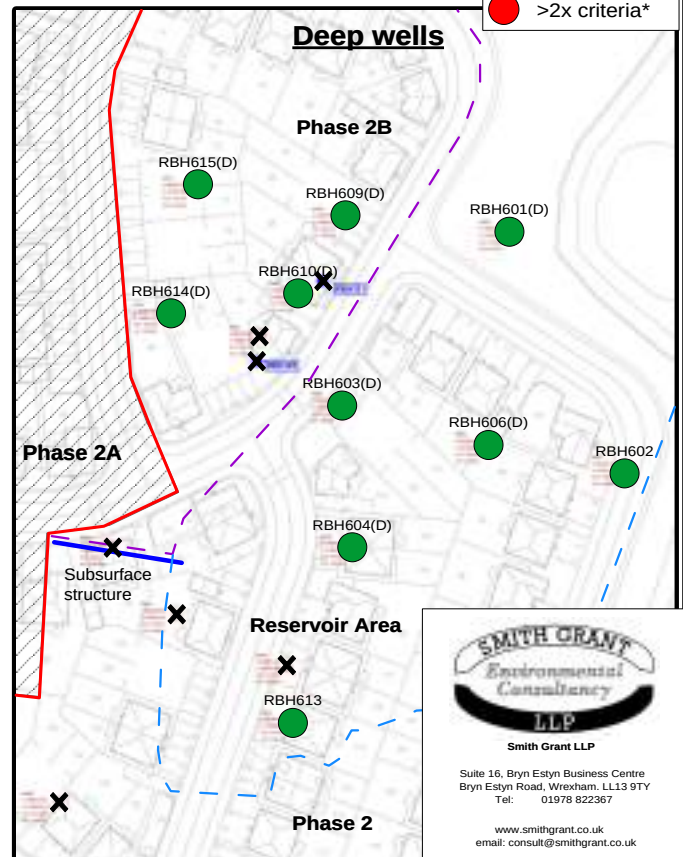
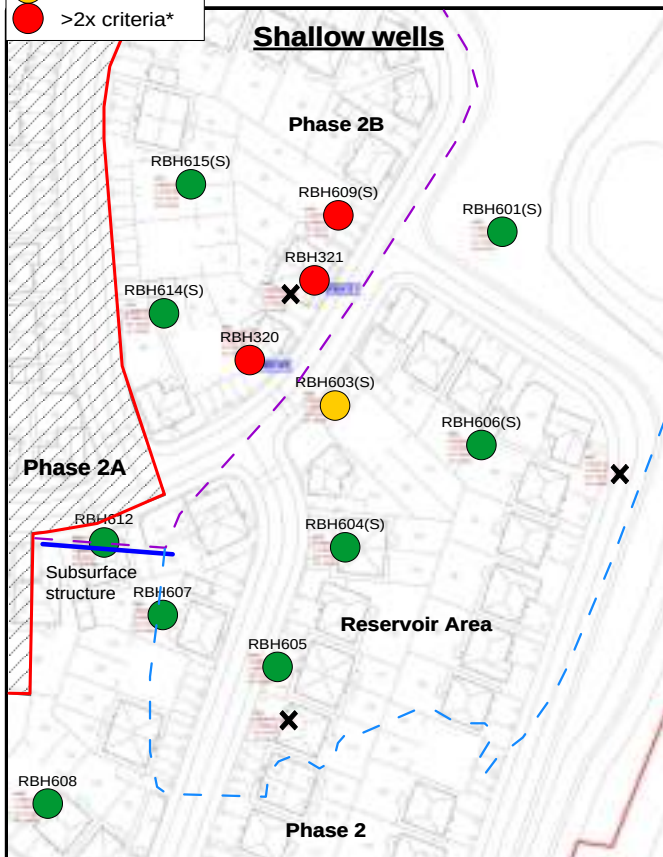
("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



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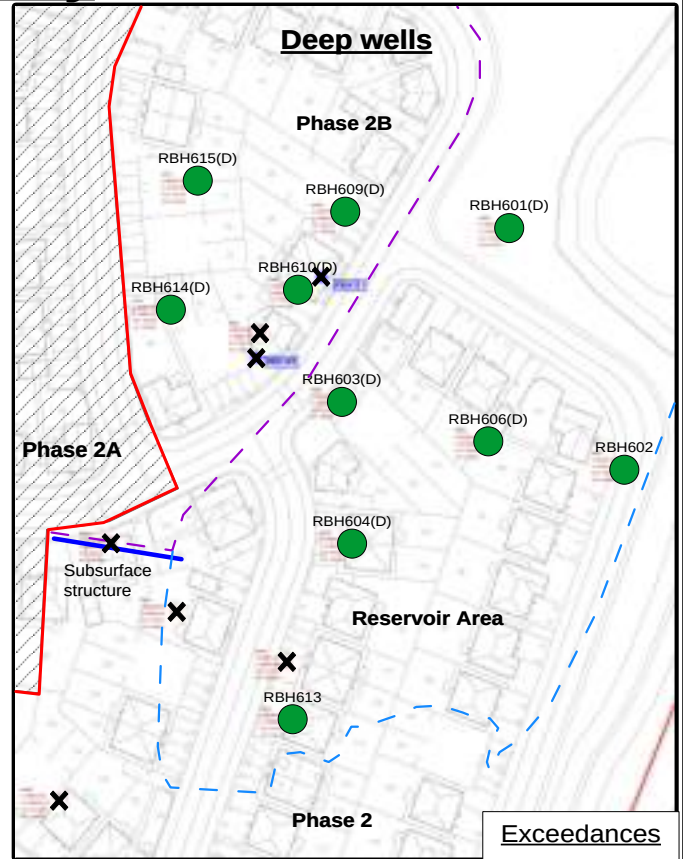
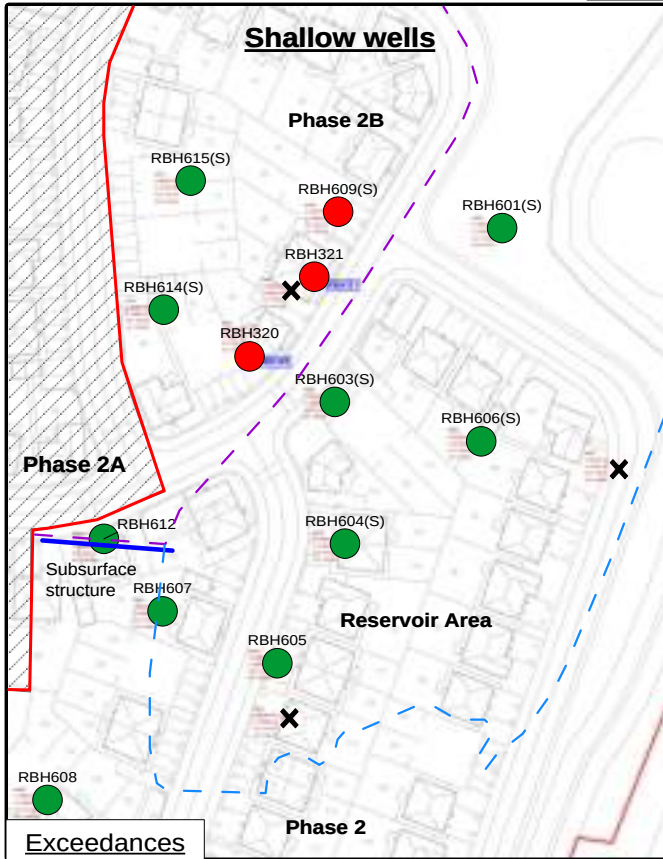
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Project: Tetrosyl-Phase 2	
Drawing: Aromatic (EC7-EC8) exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 009

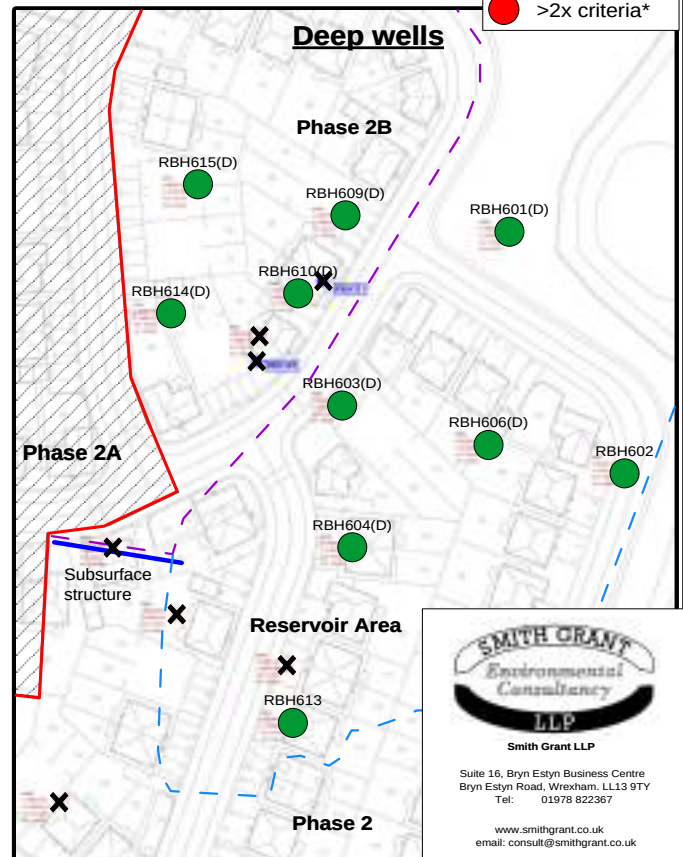
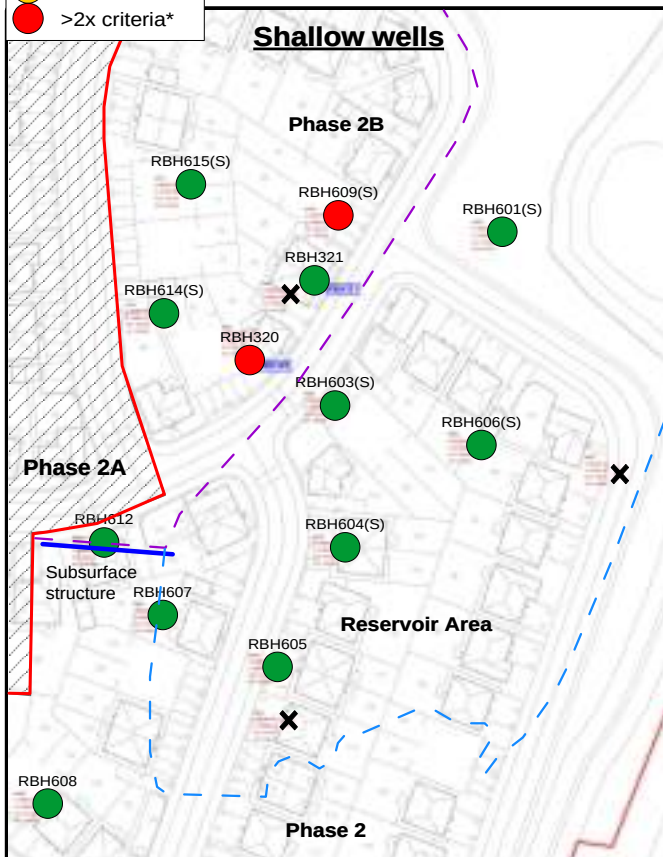
***Criteria value = 1,340 ug/L**
("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



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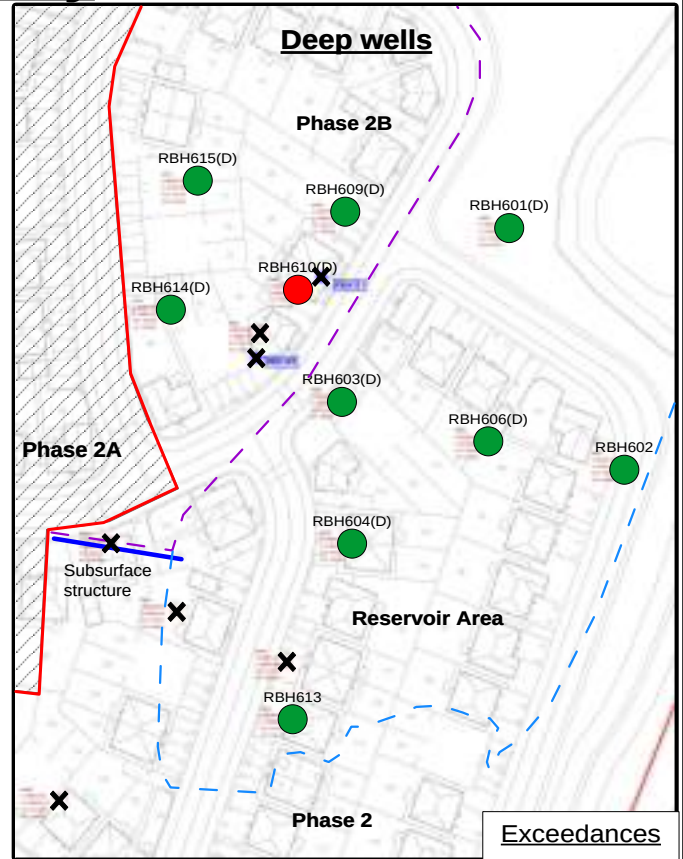
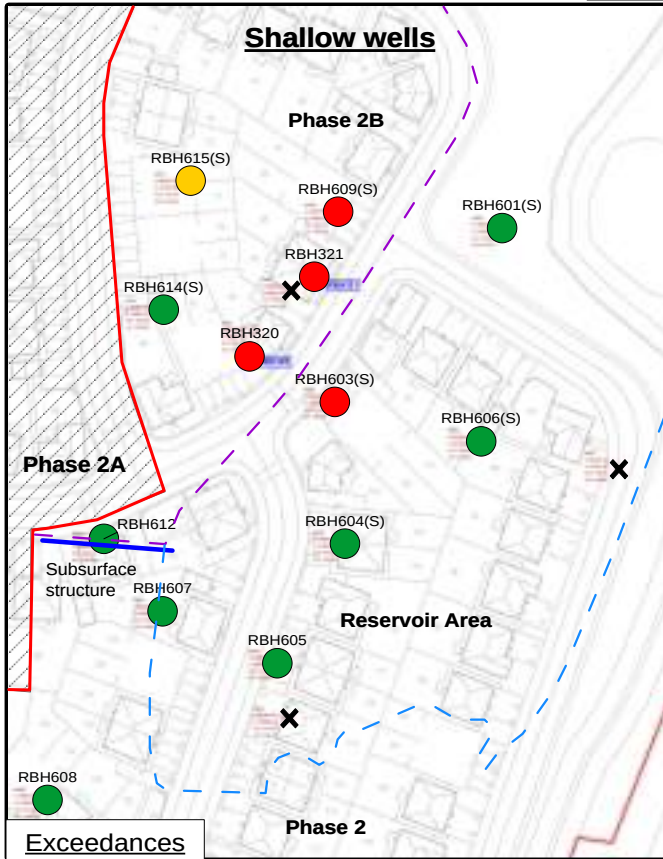
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email: consult@smithgrant.co.uk

Project: Tetrosyl-Phase 2	
Drawing: Aromatic (EC8-EC10) exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 010

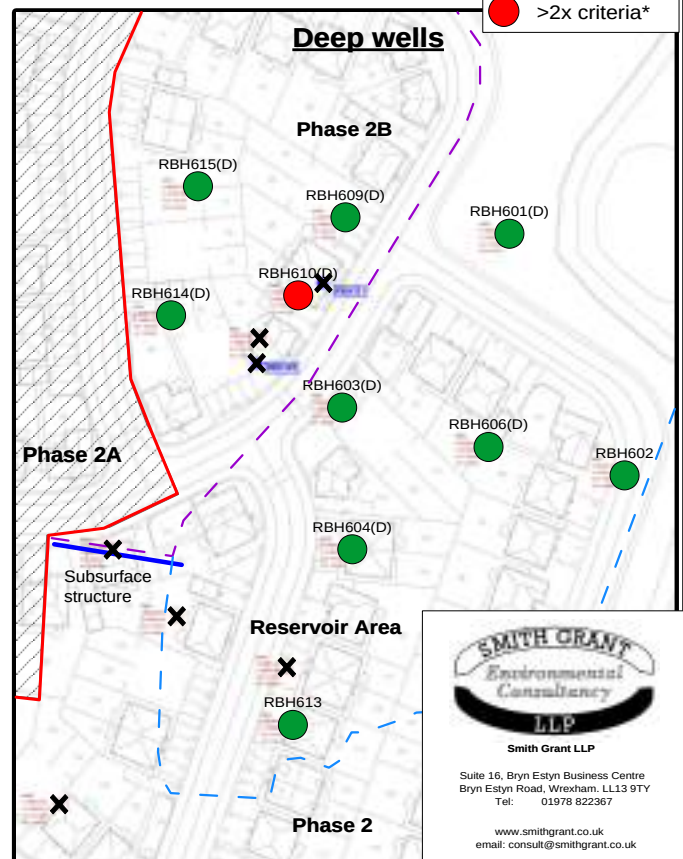
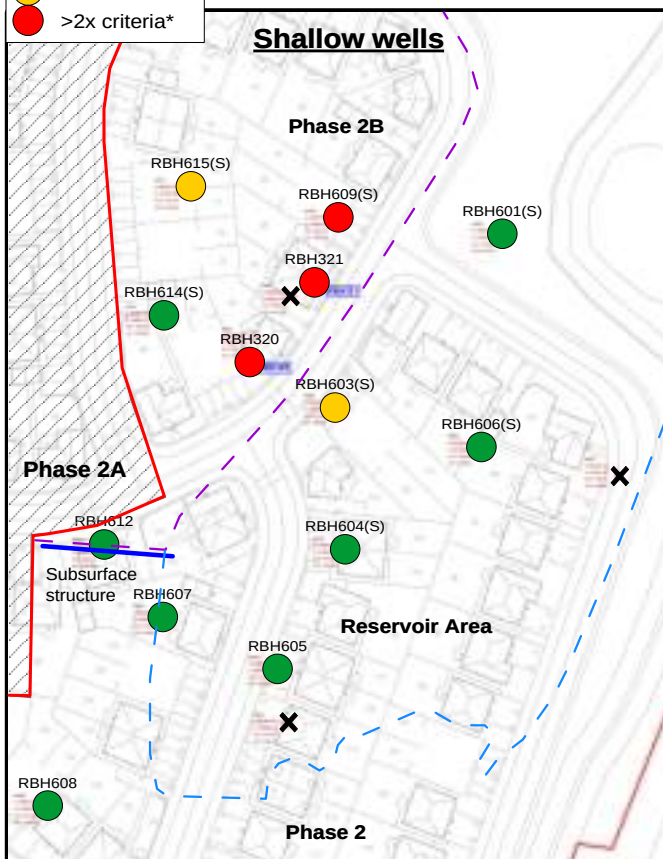
***Criteria value = 12,600 ug/L**
("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)

- Phase 2A Boundary
- Reservoir Boundary
- Phase 2B Boundary
- X No shallow/deep well

January



April



- Phase 2A Boundary
- - - Reservoir Boundary
- - - Phase 2B Boundary
- ✕ No shallow/deep well

***Criteria value = 1.02 ug/L**
 ("Tier 3" criteria with degradation applied to dissolved pollutants only) Produced by Smith Grant LLP in their Hydrogeological Detailed Quantitative Risk Assessment (DQRA) (report ref: R2174-R16; July 2024)



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Project: Tetrosyl-Phase 2	
Drawing: Vinyl chloride exceedances (with degradation)	
Drawn by: MJ	Checked: LS
Date: 13.08.24	Report no: R15
Job No: R2174	Drg No: 011

APPENDIX A

BOREHOLE LOGS

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH601		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 08.12.23			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1 Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
7.5				plain	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
				plain	2.5	Brown clay - no recovery	
				plain	3.2	GRAVEL of SANDSTONE (suspected WEATHERED BEDROCK) - no recovery	
				plain	4.5	GRAVEL of COAL - no recovery	
				slotted	5	Weak greyish brown orange stained medium to coarse grained SANDSTONE; sub-horizontal very close to closely spaced rough fractures with occasional orange staining (THE ROUGH ROCK)	
				slotted	6.5	Soft light greyish brown sandy gravelly CLAY	
				slotted	6.65	Extremely weak light grey fine grained SANDSTONE;	
				slotted	7.15	sub-horizontal extremely closely to closely spaced rough fractures with frequent orange and red staining (THE ROUGH ROCK)	
				slotted	7.5	Extremely weak grey MUDSTONE	
				slotted		Weak becoming medium strong light grey orange stained fine becoming coarse grained micaceous SANDSTONE; sub-horizontal and sub-vertical extremely closely to medium spaced rough fractures with frequent orange red and black staining (THE ROUGH ROCK)	
 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: Artesian conditions encountered (noted following completion of boring) ▼ Groundwater depths measured on 10.01.24: 0.59m (shallow well) / 0.52m (deep well) REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3.2m; coring using recirculated water flush from 3.2m to 13.5m.					
SCALE: 1:500		LOGGED BY: SM		Rig: Beretta T41 Rotary Drilling Rig			

[illegible]

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH602	
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 05-06.01.24		
Core Run	PID (ppm) 	TCR (%) 	RQD (%) 	Installation DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
				0	MADE GROUND: Brown slightly sandy gravelly clay fill with frequent cobbles - no recovery	
				3.5	Boulder (MADE GROUND)	
				3.8	No recovery in clay soils (unable to distinguish where strata changed from made ground to natural clay / silts as no core recovery)	
				6.9	Brown gravelly very sandy CLAY	
			7.5	SANDSTONE (THE ROUGH ROCK) (GEOCHEM TO PROVIDE DETAILED LOG)		

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GROUND WATER:

▼ Groundwater depth measured on 11.01.24: 2.45m

REMARKS:

Operator: Taylor Drilling Services Ltd.

Sweet chemical odour noted during drilling from between 7.5-10.5m although not apparent in rock.

All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene).

Open hole drilling from ground level to 4m; coring using recirculated water flush from 4m to 13.5m.

SCALE: 1:500

LOGGED BY: SM

Rig: Beretta T41 Rotary Drilling Rig

TCR: total core recovery (%)
RQD: rock quality designation (%)
PID: Photoionisation Detector
ppm: parts per million
AZCL: assumed zone of core loss

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH602
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 05-06.01.24	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
10.5					7.5		
					10.5	Black COAL recovered as gravel (AZCL 10.5-11.2m)	
					11.5	Weak locally medium strong greyish brown medium to coarse grained SANDSTONE; sub-horizontal and sub-vertical very closely to closely spaced rough fractures with occasional black and orange staining (THE ROUGH ROCK)	
13.5							

Borehole terminated at 13.5m in SANDSTONE (THE ROUGH ROCK)

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depth measured on 11.01.24: 2.45m	
	REMARKS: Operator: Taylor Drilling Services Ltd. Sweet chemical odour noted during drilling from between 7.5-10.5m although not apparent in rock. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 4m; coring using recirculated water flush from 4m to 13.5m.	
	SCALE: 1:500	LOGGED BY: SM Rig: Beretta T41 Rotary Drilling Rig

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million
 AZCL: assumed zone of core loss

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH603				
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 08-11.12.23					
Core Run	PID (ppm)		TCR (%)		RQD (%)		Standpipe 1 Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100		0 20 40 60 80 100		0 20 40 60 80 100					
							plain	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
							plain	3	SANDSTONE (THE ROUGH ROCK) - no recovery	
							slotted	3.25	Weak greyish brown medium to coarse grained SANDSTONE; sub-horizontal very close to closely spaced rough fractures with occasional black and orange staining (THE ROUGH ROCK)	
								5	GRAVEL of COAL - no recovery	
								6	Soft becoming firm greyish brown gravelly CLAY with inclusions of coal (SEATEARTH)	
							slotted	6.55	Weak light grey and light brown orange stained fine to medium grained micaceous SANDSTONE; sub-horizontal very closely to closely spaced fractures with frequent black red and orange staining (THE ROUGH ROCK)	
								9	SANDSTONE (THE ROUGH ROCK) - no recovery	
								9.6	Medium strong light grey and greyish-brown medium to coarse	
6										
9										

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH603		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 08-11.12.23			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
12							grained SANDSTONE; sub-horizontal and sub-vertical closely to medium spaced rough fractures with occasional black and orange staining.	
Borehole terminated at 12m in SANDSTONE (THE ROUGH ROCK)								
 SMITH GRANT <i>Environmental Consultancy</i> LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk GROUND WATER: Artesian conditions following penetration of Seatearth clay @ 6.55m ▼ Groundwater depths measured on 10.01.24: 0.43m (shallow well) / artesian (deep well) REMARKS: Operator: Taylor Drilling Services Ltd. Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. All PID readings <0.1ppm along recovered strata however sweet chemical odour noted during drilling @ ~3m PID had 10.6ev bulb calibrated to isobutylene. SCALE: 1:500 LOGGED BY: SM Rig: Beretta T41 Rotary Drilling Rig TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million								

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH604			
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 03-04.01.24				
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
7.5				plain		0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery between 0-2.5m	
						2.8	MADE GROUND: Very soft greyish brown slightly gravelly sandy silt; gravel is typically fine to medium including red brick fragments however coarse gravel of sandstone noted near base (suspected reworked natural)	
						3.5	SANDSTONE (THE ROUGH ROCK) - no recovery	
				plain		4.5	SANDSTONE (THE ROUGH ROCK) - no recovery	
						5.1	Weak fine to medium grained micaceous SANDSTONE with small pocket of sandy clay from 5.45-5.5m; sub-horizontal and sub-vertical very closely to closely spaced rough fractures with occasional black staining (THE ROUGH ROCK).	
				slotted		5.5	Weak light brown and greyish brown medium to coarse micaceous SANDSTONE; sub-horizontal very closely to medium spaced rough fractures with occasional black staining (THE ROUGH ROCK) .	
						8.1	COAL partially recovered as black gravel	
						9.1	Soft to firm grey and light brown gravelly CLAY (SEATEARTH)	
						9.2	Weak grey and light brown fine becoming medium grained micaceous SANDSTONE with thin	
	 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: Artesian conditions following penetration of Seatearth clay @ 9.2m Groundwater depths measured on 11.01.24: both artesian			REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 2.5m; coring using recirculated water flush from 2.5m to 12.5m. SCALE: 1:500 LOGGED BY: SM Rig: Beretta T41 Rotary Drilling Rig		

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH604		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 03-04.01.24			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
10.5							laminations of coal; sub-horizontal and sub-vertical very closely to medium spaced rough fractures with frequent black red and orange staining (AZCL from 10.05-10.5m) (THE ROUGH ROCK)	
12.5							Borehole terminated at 12.5m in SANDSTONE (THE ROUGH ROCK)	
 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk GROUND WATER: Artesian conditions following penetration of Seatearth clay @ 9.2m Groundwater depths measured on 11.01.24: both artesian REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 2.5m; coring using recirculated water flush from 2.5m to 12.5m. TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million								
SCALE: 1:500		LOGGED BY: SM		Rig: Beretta T41 Rotary Drilling Rig				

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH605
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 20.01.23-03.01.24	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
6				Installation plain slotted	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery (possibly natural clays near bottom depth but very thin if present and unable to confirm as no sample recovery)	
					4	SANDSTONE (THE ROUGH ROCK) - no recovery	
					5	Weak greyish brown medium to coarse grained SANDSTONE; sub-horizontal and sub-vertical very closely to medium spaced rough fractures with occasional red and orange staining (THE ROUGH ROCK)	
					7.9	COAL recovered as black gravel	
					8	Firm becoming stiff grey slightly gravelly CLAY; gravel is fine to medium coal (SEATEARTH)	
9					8.3	Very weak greyish brown and light brown fine grained micaceous SANDSTONE; sub-horizontal and sub-vertical very closely to closely spaced rough fractures with frequent orange and red staining	
					9	Weak locally medium strong light brown locally grey medium becoming coarse grained	

 SMITH GRANT <i>Environmental Consultancy</i> LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depth measured on 11.01.24: 2.08m	
	REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene) Open hole drilling from ground level to 4.5m; coring using recirculated water flush from 4.5m to 12m.	
	SCALE: 1:500	LOGGED BY: SM
	Rig: Beretta T41 Rotary Drilling Rig	

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH605										
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 20.01.23-03.01.24											
Core Run	PID (ppm)			TCR (%)			RQD (%)			Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND			
	0	25	50	75	100	0	20	40	60					80	100	0
10.5												micaceous SANDSTONE with thin laminations of coal; sub-horizontal and sub-vertical extremely closely to medium spaced rough fractures with occasional black red and orange staining				
12																
Borehole terminated at 12m in SANDSTONE (THE ROUGH ROCK)																
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GROUND WATER: Groundwater depth measured on 11.01.24: 2.08m																
REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene) Open hole drilling from ground level to 4.5m; coring using recirculated water flush from 4.5m to 12m. TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million																
SCALE: 1:500						LOGGED BY: SM			Rig: Beretta T41 Rotary Drilling Rig							

SHEET: 1 of 2		LOCATION: Bury		PROJECT: Tetrosyl (BH)		ENGINEER: SM		JOB NO. R2174		HOLE ID RBH606	
				DRILL TYPE: Rotary		CLIENT: Barratt Homes Manchester			DATE: 04-05.01.24		
Core Run		PID (ppm) 0 25 50 75 100		TCR (%) 0 20 40 60 80 100		RQD (%) 0 20 40 60 80 100		Standpipe 1 Standpipe 2		DEPTH (m)	
								plain		0	
								plain		3.35	
								plain		3.75	
								plain		4	
								plain		4.6	
7.5								slotted		9.1	
9.5								slotted		9.5	
								slotted		9.9	
MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery between 0-3m											
Very soft greyish brown slightly gravelly sandy SILT (possibly reworked)											
Greyish brown gravelly very sandy CLAY with occasional cobbles of sandstone and pockets of green and brown medium coarse sand (possibly reworked)											
SANDSTONE (No recovery)											
Weak greyish brown and light brown becoming grey medium becoming coarse grained SANDSTONE with slight sweet chemical odour from ~7-9.1m bgl; sub-horizontal very closely to medium spaced fractures with occasional black red and orange staining (THE ROUGH ROCK) (AZCL 7.5-7.7m)											
Very weak black COAL with slight sweet chemical odour and closely spaced sub-horizontal fractures											
No recovery (likely coal as coal gravel present within top of											
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GROUND WATER: Groundwater depths measured on 11.01.24: 1.54m (shallow well) / 1.77m (deep well)											
REMARKS: Operator: Taylor Drilling Services Ltd. Strong sweet chemical odour noted during drilling from 8-12.5m All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12.5m.											
SCALE: 1:500											
LOGGED BY: SM											
Rig: Beretta T41 Rotary Drilling Rig											

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH606
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 04-05.01.24	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
						9.9	underlying siltstone - see below) Very weak brownish grey sandy SILTSTONE with slight sweet chemical odour; sub-horizontal very closely to medium spaced fractures	
						10.8	Weak fine to medium grained SANDSTONE with slight sweet chemical odour; sub-horizontal closely to medium spaced rough fractures with frequent orange red and black staining	
12.5							Borehole terminated at 12.5m in SANDSTONE (THE ROUGH ROCK)	

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depths measured on 11.01.24: 1.54m (shallow well) / 1.77m (deep well)		
	REMARKS: Operator: Taylor Drilling Services Ltd. Strong sweet chemical odour noted during drilling from 8-12.5m All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12.5m.		
	TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: Assumed zone of core loss		
	SCALE: 1:500	LOGGED BY: SM	Rig: Beretta T41 Rotary Drilling Rig

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH607		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 04-05.12.23			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
3				plain	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery from between 0-2m	
					0.8	SANDSTONE (THE ROUGH ROCK) - no recovery	
					2.2	Weak greyish-brown medium to coarse grained SANDSTONE; sub-horizontal and sub vertical closely to medium spaced rough fractures with occasional orange staining (THE ROUGH ROCK)	
					3.2	Extremely weak black COAL (AZCL between 3.2-3.35m)	
					3.6	Very weak becoming weak fine to medium-grained yellowish-brown and grey micaceous SANDSTONE; sub-horizontal and sub vertical closely to medium spaced rough fractures with 3mm of clay infill in sub-vertical fracture (THE ROUGH ROCK) (AZCL 4.3-5.25m)	
6				slotted	5.4	Weak light grey (with thin laminations of dark grey) fine to medium micaceous SANDSTONE with extremely thin laminations of COAL between 9.45-9.55m; sub-horizontal and sub vertical closely to medium spaced rough fractures with frequent orange and black staining (THE ROUGH ROCK) (AZCL 9.0-9.35m)	
9					9.5	Weak locally medium strong greyish brown coarse grained SANDSTONE; sub-horizontal and	
SMITH GRANT Environmental Consultancy LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER:  Groundwater strike at 2.8m bgl on day of drilling  Groundwater depth measured on 10.01.24: 0.98m					
		REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene) Open hole drilling from ground level to 1.5m; coring using recirculated water flush from 1.5m to 10.5m.					
		TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: assumed zone of core loss					
		SCALE: 1:500		LOGGED BY: SM		Rig: Beretta T41 Rotary Drilling Rig	

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH607							
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 04-05.12.23								
Core Run	PID (ppm) 0 25 50 75 100			TCR (%) 0 20 40 60 80 100			RQD (%) 0 20 40 60 80 100			Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100			0 20 40 60 80 100			0 20 40 60 80 100						
10.5											9.5	sub vertical closely spaced rough fractures with occasional orange staining (THE ROUGH ROCK)	
Borehole terminated at 10.5m in SANDSTONE (THE ROUGH ROCK)													
SMITH GRANT Environmental Consultancy LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk													
GROUND WATER: Groundwater strike at 2.8m bgl on day of drilling Groundwater depth measured on 10.01.24: 0.98m													
REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene) Open hole drilling from ground level to 1.5m; coring using recirculated water flush from 1.5m to 10.5m. TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: assumed zone of core loss													
SCALE: 1:500						LOGGED BY: SM				Rig: Beretta T41 Rotary Drilling Rig			

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH608
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 04-05.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
				plain	0	SANDSTONE (THE ROUGH ROCK) - no recovery	
3					1.5	Weak greyish-brown fine to medium grained micaceous SANDSTONE; sub-horizontal and sub vertical very closely to medium spaced rough fractures with frequent orange and black staining (THE ROUGH ROCK) (AZCL 3.0-4.5m)	
6					6	COAL - no recovery	
					6.5	Extremely weak locally very weak thinly laminated dark grey MUDSTONE with slika mineralisation (non-intact recovery) (ROSSENDALE FORMATION)	
10				slotted		Borehole terminated at 10m in MUDSTONE (ROSSENDALE FORMATION)	

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: Groundwater strike at 0.5m bgl on day of drilling Groundwater depth measured on 10.01.24: 0.68m	
	REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 1.5m; coring using recirculated water flush from 1.5m to 10m.	
	SCALE: 1:500	LOGGED BY: SM

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million
 AZCL: assumed zone of core loss

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH609			
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 05.12.23				
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
6	13.6ppm			plain	plain	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
						2.5	SANDSTONE (THE ROUGH ROCK) - no recovery	
9				slotted	slotted	4	Very weak grey fine to medium grained SANDSTONE with strong sweet chemical odour; sub-horizontal and sub-vertical rough fractures with frequent red and black staining (THE ROUGH ROCK)	
						4.2		
						5	Weak greyish brown and light brown medium to coarse grained micaceous SANDSTONE; sub-horizontal and sub-vertical medium spaced rough fractures with brown clay infill in sub-vertical fracture (THE ROUGH ROCK)	
						5.8		
						6	COAL (no recovery)	
						6.6		
							Suspected SEATEARTH based on water flush - no recovery	
							SANDSTONE (THE ROUGH ROCK) - no recovery	
							Weak greyish brown becoming light grey fine becoming coarse grained micaceous SANDSTONE; sub-horizontal medium spaced rough fractures with frequent orange and black staining (THE ROUGH ROCK)	

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GROUND WATER:

▼ Groundwater depths measured on 10.01.24: 2.82m (shallow well) / 2.53m (deep well)

REMARKS:

Operator: Taylor Drilling Services Ltd.

Strong sweet chemical odour noted during drilling from 2.5-6m bgl

Maximum PID reading of 13.6ppm between 4-4.2m (PID had 10.6ev bulb calibrated to isobutylene).

Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m.

SCALE: 1:500

LOGGED BY: SM

Rig: Beretta T41 Rotary Drilling Rig

TCR: total core recovery (%)

RQD: rock quality designation (%)

PID: Photoionisation Detector

ppm: parts per million

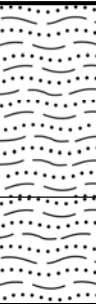
SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH609		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 05.12.23			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
12						6.6		
Borehole terminated at 12m in SANDSTONE (THE ROUGH ROCK)								
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GROUND WATER: ▼ Groundwater depths measured on 10.01.24: 2.82m (shallow well) / 2.53m (deep well)								
REMARKS: Operator: Taylor Drilling Services Ltd. Strong sweet chemical odour noted during drilling from 2.5-6m bgl Maximum PID reading of 13.6ppm between 4-4.2m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m.								
SCALE: 1:500			LOGGED BY: SM			Rig: Beretta T41 Rotary Drilling Rig		

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH610
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 06.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
6						0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
						2.7	SANDSTONE (THE ROUGH ROCK) - no recovery	
	118.4ppm					3.3	SANDSTONE with strong sweet chemical odour (GEOCHEM TO PROVIDE DETAILED LOG)	
	12.6ppm					5.4	COAL (GEOCHEM TO PROVIDE DETAILED LOG)	
	7.6ppm					6	Firm grey gravelly CLAY with fragments of coal (SEATEARTH)	
9						6.2	Weak light grey fine to medium grained SANDSTONE with thin laminations of coal; sub-vertical and sub-horizontal closely spaced rough fractures with frequent black and orange staining (THE ROUGH ROCK)	
						7	SANDSTONE (GEOCHEM TO PROVIDE DETAILED LOG)	
						8	Weak light grey medium becoming coarse grained micaceous SANDSTONE; sub-vertical and sub-horizontal closely to medium spaced rough fractures with occasional orange and black staining (THE ROUGH ROCK)	

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER:  Groundwater depths measured on 10.01.24: 1.93m (shallow well) / 1.91m (deep well)		
	REMARKS: Operator: Taylor Drilling Services Ltd. Maximum PID reading of 118.4ppm between 3.4-4m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 13m.		
	SCALE: 1:500	LOGGED BY: SM	Rig: Beretta T41 Rotary Drilling Rig
	TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million		

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH610				
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 06.12.23					
Core Run	PID (ppm) 0 25 50 75 100		TCR (%) 0 20 40 60 80 100		RQD (%) 0 20 40 60 80 100		Standpipe 1 Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
12								8		
								11.3		
									Borehole terminated at 12m in SANDSTONE (THE ROUGH ROCK)	
 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: ▼ Groundwater depths measured on 10.01.24: 1.93m (shallow well) / 1.91m (deep well)								
		REMARKS: Operator: Taylor Drilling Services Ltd. Maximum PID reading of 118.4ppm between 3.4-4m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 13m.								
		SCALE: 1:500								
		LOGGED BY: SM			Rig: Beretta T41 Rotary Drilling Rig					

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH611					
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 05.12.23						
Core Run	PID (ppm)		TCR (%)		RQD (%)		Standpipe 1 Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND	
	0 25 50 75 100		0 20 40 60 80 100		0 20 40 60 80 100						
6	2.3ppm						plain	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery		
							slotted	2.8	SANDSTONE (THE ROUGH ROCK) - no recovery		
							plain	3.6	Weak greyish brown and light grey fine to coarse grained micaceous SANDSTONE with slight sweet chemical odour; sub-horizontal very closely to medium spaced rough fractures (THE ROUGH ROCK)		
								4.7	Weak light brown fine to coarse micaceous SANDSTONE with slight sweet chemical odour; sub-horizontal closely spaced rough fractures (THE ROUGH ROCK)		
								5	COAL (no recovery)		
								5.8	Weak light greyish brown fine to medium grained micaceous SANDSTONE; sub-vertical and sub-horizontal very closely to medium spaced rough fractures with frequent black and red staining (THE ROUGH ROCK) (AZCL 5.8-6m)		
9							slotted	7.25	Weak light grey fine grained micaceous SANDSTONE; sub-horizontal very closely to medium spaced rough fractures with frequent orange staining (THE ROUGH ROCK)		
								9.7	Medium strong greyish brown		
SMITH GRANT Environmental Consultancy LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk GROUND WATER: Groundwater strike at 1.5m bgl on day of drilling Groundwater depth measured on 10.01.24: 1.86m (shallow well) Unable to record groundwater for deeper well: borehole blocked at 0.99m REMARKS: Operator: Taylor Drilling Services Ltd. Maximum PID reading of 2.3ppm between 4.7-5m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: assumed zone of core loss SCALE: 1:500 LOGGED BY: SM Rig: Beretta T41 Rotary Drilling Rig											

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH611		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 05.12.23			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
12							medium to coarse grained micaceous SANDSTONE; sub-vertical and sub-horizontal very closely to widely spaced rough fractures with frequent black and orange staining (THE ROUGH ROCK)	
Borehole terminated at 12m in SANDSTONE (THE ROUGH ROCK)								
 SMITH GRANT <i>Environmental Consultancy</i> LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk GROUND WATER: ☒ Groundwater strike at 1.5m bgl on day of drilling ▼ Groundwater depth measured on 10.01.24: 1.86m (shallow well) Unable to record groundwater for deeper well: borehole blocked at 0.99m REMARKS: Operator: Taylor Drilling Services Ltd. Maximum PID reading of 2.3ppm between 4.7-5m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: assumed zone of core loss SCALE: 1:500 LOGGED BY: SM Rig: Beretta T41 Rotary Drilling Rig								

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH612
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 07.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
6	2.6ppm			Installation plain slotted	0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
					3.2	SANDSTONE (THE ROUGH ROCK) - no recovery	
					4.7	SANDSTONE (GEOCHEM TO PROVIDE DETAILED LOG)	
					6	SANDSTONE (THE ROUGH ROCK) - no recovery	
					6.3	Weak light brown and grey fine to coarse grained SANDSTONE with thin laminations of coal; sub-horizontal very closely to closely spaced rough fractures with frequent orange and black staining (THE ROUGH ROCK)	
9					7.55	Weak locally medium strong greyish brown orange-stained medium to coarse grained SANDSTONE with thin laminations of coal; sub-horizontal closely to medium spaced rough fractures with frequent red and black staining (THE ROUGH ROCK) (AZCL 9.0-10.7m)	

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depth measured on 11.01.24: 1.81m	
	REMARKS: Operator: Taylor Drilling Services Ltd. Maximum PID reading of 2.6ppm between 4.7-5m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. Unable to record TCR and RQD from 3-6m as 4.7-6m core sample collected by CE Geochem Ltd.	
	SCALE: 1:500	LOGGED BY: SM
	TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: assumed zone of core loss Rig: Beretta T41 Rotary Drilling Rig	

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH612
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 07.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
12					7.55		
Borehole terminated at 10.5m in SANDSTONE (THE ROUGH ROCK)							

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depth measured on 11.01.24: 1.81m	
	REMARKS: Operator: Taylor Drilling Services Ltd. Maximum PID reading of 2.6ppm between 4.7-5m (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. Unable to record TCR and RQD from 3-6m as 4.7-6m core sample collected by CE Geochem Ltd.	
	SCALE: 1:500	LOGGED BY: SM

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million
 AZCL: assumed zone of core loss

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH613
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 19-20.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
9				plain	0	MADE GROUND: Brown slightly sandy gravelly clay fill with frequent cobbles - no recovery	
					5.8	Boulder (MADE GROUND)	
					6	No recovery in clay soils (likely natural but unable to confirm as no core recovery)	
					7.6	Weak light grey medium becoming coarse grained micaceous SANDSTONE; sub-horizontal and sub vertical closely spaced rough fractures with light brown clay infill in sub-vertical fracture (THE ROUGH ROCK)	
					8.1		
			9	Very weak to weak light grey fine to medium grained micaceous SANDSTONE; sub-horizontal very closely to closely spaced rough fractures with occasional orange staining (THE ROUGH ROCK)			
			9.45	Weak brownish grey coarse grained SANDSTONE with thin laminations			

 SMITH GRANT <i>Environmental Consultancy</i> LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depth measured on 11.01.24: 2.58m	
	REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 6.2m; coring using recirculated water flush from 6.2m to 13.5m.	
	SCALE: 1:500	LOGGED BY: SM
	Rig: Beretta T41 Rotary Drilling Rig	

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million
 AZCL: assumed zone of core loss

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH613
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 19-20.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
10.5						of coal; sub-horizontal and sub-vertical closely spaced rough fractures with frequent red staining (THE ROUGH ROCK) Weak locally medium strong light grey and greyish brown medium grained SANDSTONE; sub-horizontal and sub vertical closely spaced rough fractures with frequent red black and orange staining (THE ROUGH ROCK) (AZCL between 10.5-12.4m)	
13.5						Borehole terminated at 13.5m in SANDSTONE (THE ROUGH ROCK)	

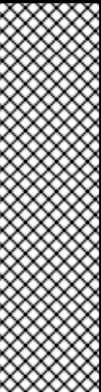
 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depth measured on 11.01.24: 2.58m	
	REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 6.2m; coring using recirculated water flush from 6.2m to 13.5m.	
	SCALE: 1:500	LOGGED BY: SM
	Rig: Beretta T41 Rotary Drilling Rig	

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH614			
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 07.12.23				
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
						0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
						2.7	COAL - no recovery	
						3.1	Suspected SEATEARTH based on water flush - no recovery	
6						3.7	Soft greyish brown and dark grey slightly sandy gravelly CLAY (SEATEARTH) Weak greyish brown and grey orange stained fine to medium grained micaceous SANDSTONE; sub-horizontal close to medium spaced rough fractures (THE ROUGH ROCK) SANDSTONE (GEOCHEM TO PROVIDE DETAILED LOG)	
						3.8		
						4		
9						6	Weak locally medium strong greyish-brown and grey micaceous SANDSTONE; sub-vertical and sub-horizontal close to widely spaced rough fractures with frequent red and black staining (THE ROUGH ROCK) (AZCL 6-6.1m and 9-9.3m)	
 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: ▼ Groundwater depths measured on 10.01.24: 2.03m (shallow well) / 1.96m (deep well)						
		REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. Unable to record TCR and RQD from 3-6m as 4-6m core sample collected by CE Geochem Ltd.						
SCALE: 1:500		LOGGED BY: SM			Rig: Beretta T41 Rotary Drilling Rig			

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM		JOB NO. R2174	HOLE ID RBH614		
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester		DATE: 07.12.23			
Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
12						6		
Borehole terminated at 12m in SANDSTONE (THE ROUGH ROCK)								
 SMITH GRANT <i>Environmental Consultancy</i> LLP Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk								
GROUND WATER: ▼ Groundwater depths measured on 10.01.24: 2.03m (shallow well) / 1.96m (deep well)								
REMARKS: Operator: Taylor Drilling Services Ltd. All PID readings <0.1ppm along recovered strata (PID had 10.6ev bulb calibrated to isobutylene). Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 12m. Unable to record TCR and RQD from 3-6m as 4-6m core sample collected by CE Geochem Ltd.								
SCALE: 1:500			LOGGED BY: SM			Rig: Beretta T41 Rotary Drilling Rig		

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million
 AZCL: assumed zone of core loss

SHEET: 1 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH615
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 06-07.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
6				plain		0	MADE GROUND: Brown slightly sandy gravelly clay fill - no recovery	
						2.6	No recovery - suspected coal / seatearth	
				slopped	plain	3.4	GEOCHEM TO PROVIDE LOG	
9								

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER:  Groundwater depths measured on 10.01.24: 2.37m (shallow well) / 2.38m (deep well)		
	REMARKS: Operator: Taylor Drilling Services Ltd. Sweet chemical odour / sheen on water flush noted during drilling between 9-12m. All PID readings <0.1ppm from end of liners (PID had 10.6ev bulb calibrated to isobutylene). Unable to record TCR and RQD from 3-15m as full core sample collected by CE Geochem Ltd. Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 15m.		
	SCALE: 1:500	LOGGED BY: SM	Rig: Beretta T41 Rotary Drilling Rig
	TCR: total core recovery (%) RQD: rock quality designation (%) PID: Photoionisation Detector ppm: parts per million AZCL: assumed zone of core loss		

SHEET: 2 of 2	LOCATION: Bury	PROJECT: Tetrosyl (BH)	ENGINEER: SM	JOB NO. R2174	HOLE ID RBH615
		DRILL TYPE: Rotary	CLIENT: Barratt Homes Manchester	DATE: 06-07.12.23	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Standpipe 1	Standpipe 2	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100					
12						3.4		
15								
Borehole terminated at 15m in SANDSTONE (THE ROUGH ROCK)								

 Smith Grant LLP Bryn Estyn Business Centre (Suite 16), Bryn Estyn Rd, Wrexham, LL13 9TY Tel: 01978 822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: ▼ Groundwater depths measured on 10.01.24: 2.37m (shallow well) / 2.38m (deep well)	
	REMARKS: Operator: Taylor Drilling Services Ltd. Sweet chemical odour / sheen on water flush noted during drilling between 9-12m. All PID readings <0.1ppm from end of liners (PID had 10.6ev bulb calibrated to isobutylene). Unable to record TCR and RQD from 3-15m as full core sample collected by CE Geochem Ltd. Open hole drilling from ground level to 3m; coring using recirculated water flush from 3m to 15m.	
	SCALE: 1:500	LOGGED BY: SM
	Rig: Beretta T41 Rotary Drilling Rig	

TCR: total core recovery (%)
 RQD: rock quality designation (%)
 PID: Photoionisation Detector
 ppm: parts per million
 AZCL: assumed zone of core loss

SHEET: 1 of 1	LOCATION: Bury	PROJECT: Tetrasyl URL	ENGINEER: CS	JOB NO. R2174C	HOLE ID RBH320
	DRILL TYPE: Rotary		CLIENT: Urban Regen	DATE: 08/03/2021	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 25 50 75 100	0 20 40 60 80 100	0 20 40 60 80 100				
1	0.1 28			plain	0	MADE GROUND: brown gravelly clay. Gravel is angular brick, concrete and sandstone.	
2					1	No recovery	
3	5			slotted	2	Possibly weathered SANDSTONE. Recovered as light brown gravelly sand (weathered ROUGH ROCK).	
					2.5	Medium strong locally strong pale locally yellowish brown coarse grained SANDSTONE (THE ROUGH ROCK)	
	15				3	Possibly weathered SANDSTONE. Recovered as light brown sandy gravel of sandstone (weathered ROUGH ROCK).	
					3.4	Medium strong locally strong pale locally yellowish brown coarse grained SANDSTONE (THE ROUGH ROCK)	
4.5					4.0		
6	0				5.0		
					5.5	Blackish grey sandy gravel of COAL.	
					5.7	Light brown slightly sandy CLAY (SEATEARTH)	
						Borehole terminated at 6m	

 Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL Tel: 01978822367 Fax: 019788247182 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: 0.40m bgl 15.03.21	
	REMARKS:	
	Operator: Borehole Solutions	
	SCALE: 1:500	LOGGED BY: CS

TDR: total core recovery (%)
RQD: rock quality designation (%)
NDL: Photoluminescence Detector
ppm: parts per million

SHEET:	LOCATION:	PROJECT:	ENGINEER:	JOB NO.	HOLE ID
	Bury	Tetecyl URL	CS	R2174C	
	DRILL TYPE:	CLIENT:		DATE:	
	Rotary	Urban Regen		09/03/2021	

Core Run	PID (ppm)	TCR (%)	RQD (%)	Installation	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
	0 500 1000 1500	0 20 40 60 80 100	0 20 40 60 80 100				
1				plain	0	MADE GROUND: brown gravelly clay. Gravel is angular brick, concrete and sandstone.	
3					2.4	Possibly weathered SANDSTONE. Recovered as light grey gravelly sand (weathered ROUGH ROCK).	
5				slotted	3	Weak to medium strong pale locally yellowish brown coarse grained SANDSTONE. Partially recovered as gravel of sandstone. Lens of clay at 4.8m. (THE ROUGH ROCK)	
6					5.3	Blackish grey sandy gravel of COAL.	
					5.9	Light grey slightly sandy CLAY (SEATEARTH) Borehole terminated at 6m	

 Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL Tel: 01978822367 Fax: 019788247182 www.smithgrant.co.uk email: consult@smithgrant.co.uk	GROUND WATER: 0.56m bgl 15.03.21	
	REMARKS: PID readings between 600ppm and 1500ppm between 2.1m and 2.8m. Operator: Borehole Solutions	
	SCALE: 1:500	LOGGED BY: CS
	RIG: Eijkelpamp SonicSampDrill	

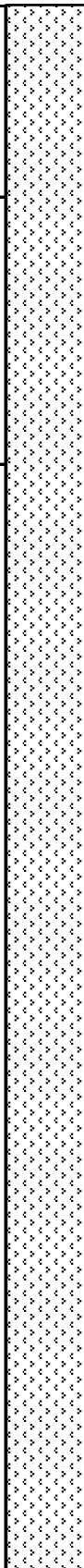
	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	148.031 m (GL)	602
	Client	Barratt Homes	Co-ordinates	E: 381046.116, N: 413921.152	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/01/2024	7.5–8.5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
	0.0		7.50–7.60		Light greyish-brown orange stained medium grained SANDSTONE (THE ROUGH ROCK)
	0.1		7.60–7.66		Light greyish-brown orange stained medium grained SANDSTONE with closely spaced sub-horizontal fractures
	0.2		7.66–7.74		Light grey mottled brown medium grained SANDSTONE (THE ROUGH ROCK)
	0.3		7.74–7.80		Light grey mottled brown medium grained SANDSTONE (THE ROUGH ROCK) with closely spaced sub-horizontal fractures
	0.4		7.80–7.88		Light grey medium grained SANDSTONE with sub-horizontal orange-brown staining (THE ROUGH ROCK)
	0.4		7.88–7.94		Light grey orange stained medium grained SANDSTONE (THE ROUGH ROCK) with frequent fine, angular dark brown gravel
	0.5		7.94–8.01		Greyish brown medium grained SANDSTONE
	0.6		8.01–8.50		AZCL 8–8.5 m
	0.7				
	0.8				
	0.9				
	1.0				
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 51%. Rock Quality Designation = 30%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

 Geochem Cutting-Edge Geochemistry	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	148.031 m (GL)	602
	Client	Barratt Homes	Co-ordinates	E: 381046.116, N: 413921.152	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/01/2024	8.5–9.5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			8.5–8.74		Light grey mottled dark grey medium grained SANDSTONE with rare orange staining (THE ROUGH ROCK); occasional sub-horizontal to horizontal fractures
			8.74–8.90		Light grey orange stained medium grained SANDSTONE (THE ROUGH ROCK) with medium space horizontal fractures
			8.90–9.48		Light grey medium grained SANDSTONE with occasional orange staining; close to medium space sub-horizontal fractures
			9.48–9.50		AZCL: 9.48–9.50 m
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 95%. Rock Quality Designation = 12%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	148.031 m (GL)	602
	Client	Barratt Homes	Co-ordinates	E: 381046.116, N: 413921.152	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/01/2024	9.5–10.5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0  0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0			9.52–9.54	Light grey orange stained medium grained SANDSTONE (THE ROUGH ROCK)	
			9.54–9.66	Light grey mottled brown medium grained SANDSTONE (THE ROUGH ROCK); medium spaced sub-horizontal fractures	
			9.66–10.22	Light grey mottled brown medium grained SANDSTONE (THE ROUGH ROCK) with rare orange staining; medium spaced sub-horizontal fractures	
			10.22–10.46	Light grey mottled brown medium grained SANDSTONE (THE ROUGH ROCK); medium spaced sub-horizontal fractures	
			10.46–10.50	AZCL: 10.46–10.50 m	
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 92%. Rock Quality Designation = 79%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	147.318 (GL)	606
	Client	Barratt Homes	Co-ordinates	E: 381020.221; N: 413926.339	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	05/01/2024	7.5–8.5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			7.50–8.04		AZCL: 7.5–8.04 m
			8.04–8.08		Light grey medium grained SANDSTONE (THE ROUGH ROCK) with rare black staining
			8.08–8.36		Light grey orange stained medium grained SANDSTONE (THE ROUGH ROCK) with medium spaced sub-horizontal fractures
			8.36–8.5		Light grey medium grained SANDSTONE (THE ROUGH ROCK)
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 48%. Rock Quality Designation = 30%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	147.318 (GL)	606
	Client	Barratt Homes	Co-ordinates	E: 381020.221; N: 413926.339	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	05/01/2024	8.5–9.5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			8.50–8.60		Light grey medium grained SANDSTONE (THE ROUGH ROCK) with occasional orange staining
			8.60–9.18		Light grey medium grained SANDSTONE (THE ROUGH ROCK) with frequent black staining and occasional orange staining
			9.18–9.48		COAL with closely spaced horizontal to sub-horizontal fractures
			9.48–9.50		COAL gravel (No recovery)
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 94%. Rock Quality Designation = 51%. COAL gravel (9.48–9.50 m) not received by CE Geochem. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

		Core Logging									
		Project ID		A231001		Hole Type		Rotary		Borehole ID	
		Project Name		Tetrosyl		Level		147.318 (GL)		606	
		Client		Barratt Homes		Co-ordinates		E: 381020.221; N: 413926.339		Depth Range	
		Logged By		James Bradley/Tom Mullan		Date		05/01/2024		10–10.8 m	
Core Photography		Sampling				Depth (mbgl)		Stratum Description			
		Depth (mbgl)		Results							
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 						10.00–10.10				Brownish dark grey sandy SILTSTONE	
						10.10–10.24				Non-intact brownish dark grey sandy SILTSTONE	
						10.24–10.82				Brownish dark grey sandy SILTSTONE with very closely to medium spaced sub horizontal fractures	
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 95%. Rock Quality Designation = 60%. TCR and RQD given in reference to a nominal 0.8 m core length. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.											
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416											

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	150.415 (GL)	610
	Client	Barratt Homes	Co-ordinates	E: 380983.991; N: 413954.050	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	3–4 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
			3.00–3.28		AZCL 3–3.28
			3.28–3.40		Non-intact brown-orange medium grained SANDSTONE (THE ROUGH ROCK) recovered as medium to coarse gravel
			3.40–3.52		Light grey medium grained SANDSTONE (THE ROUGH ROCK); moderately wide horizontal fracture with non-intact SANDSTONE fragments
			3.52–3.58		Orange stained medium grained SANDSTONE (THE ROUGH ROCK) with horizontal fracture
			3.58–4.00		Light grey medium grained SANDSTONE (THE ROUGH ROCK) with very closely to closely spaced horizontal fractures
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 70%. Rock Quality Designation = 35%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	150.415 (GL)	610
	Client	Barratt Homes	Co-ordinates	E: 380983.991; N: 413954.050	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	4–5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			4.00–4.42		Light grey medium grained SANDSTONE (THE ROUGH ROCK) with very closely to closely spaced fractures
			4.42–5.00		Light grey medium grained SANDSTONE (THE ROUGH ROCK) with light becoming dark orange staining; with very closely to closely spaced sub-horizontal fractures
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 97%. Rock Quality Designation = 76%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	150.415 (GL)	610
	Client	Barratt Homes	Co-ordinates	E: 380983.991; N: 413954.050	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	5–6 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
			5.00–5.38		Light grey orange stained medium grained SANDSTONE (THE ROUGH ROCK) with very closely to closely spaced sub-horizontal fractures
			5.38–5.94		COAL with rare orange staining; very closely to closely spaced horizontal to sub-horizontal fractures
			5.94–6.00		AZCL 5.94–6.00
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 92%. Rock Quality Designation = 39%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	150.415 (GL)	610
	Client	Barratt Homes	Co-ordinates	E: 380983.991; N: 413954.050	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	7–8 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			7.00–7.30	Greyish white with dark orange becoming light orange staining fine grained SANDSTONE (THE ROUGH ROCK) with very closely spaced sub-horizontal dark grey laminations and closely to medium spaced sub-horizontal fractures	
			7.30–7.42	Greyish white fine grained SANDSTONE (THE ROUGH ROCK) with very closely spaced sub-horizontal dark grey laminations and dark orange staining around closely spaced sub-horizontal fractures	
			7.42–7.60	Greyish white fine grained SANDSTONE (THE ROUGH ROCK) with rare orange staining	
			7.60–7.62	Orange stained fine grained SANDSTONE (THE ROUGH ROCK) with sub-horizontal fracture	
			7.62–7.74	Greyish white fine grained SANDSTONE (THE ROUGH ROCK), rarely mottled brown	
			7.74–7.88	Orange stained fine grained SANDSTONE (THE ROUGH ROCK) with closely spaced sub-horizontal fractures	
			7.88–8.00	Greyish white fine grained SANDSTONE (THE ROUGH ROCK)	
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 97%. Rock Quality Designation = 68%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

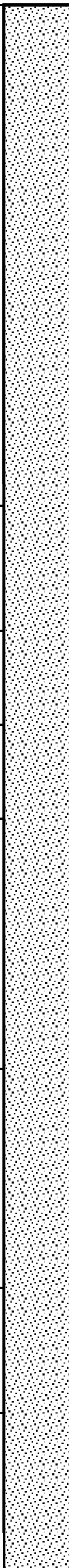
	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	148.421 (GL)	612
	Client	Barratt Homes	Co-ordinates	E: 380948.393; N: 413908.523	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	07/12/2023	4–5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
	0.0		4.00–4.70		AZCL: 4.0–4.7 m
	0.1				
	0.2				
	0.3				
	0.4				
	0.5				
	0.6				
	0.7		4.70–4.76		Orange stained medium grained SANDSTONE (THE ROUGH ROCK) with dark horizontal laminations; sub-horizontal fracture
	0.8		4.76–4.86		Brownish grey medium grained SANDSTONE (THE ROUGH ROCK) with dark sub-horizontal laminations
	0.9				Non-intact brownish grey orange-stained medium grained SANDSTONE (THE ROUGH ROCK) recovered as fine to coarse gravel
	1.0				
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 28%. Rock Quality Designation = 0%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	148.421 (GL)	612
	Client	Barratt Homes	Co-ordinates	E: 380948.393; N: 413908.523	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	07/12/2023	5–6 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
	0.0		5.00–5.06		Brownish grey orange-stained fine grained SANDSTONE (THE ROUGH ROCK) with sub-horizontal fracture
	0.1		5.06–5.60		Brownish grey orange-stained fine grained SANDSTONE (THE ROUGH ROCK) with numerous sub-horizontal and sub-vertical cracks and frequent extremely closely spaced dark orange sub-horizontal laminations
	0.2				
	0.3				
	0.4				
	0.5				
	0.6		5.60–5.70		Brownish grey orange-stained fine grained SANDSTONE (THE ROUGH ROCK) with abundant extremely closely spaced dark orange sub-horizontal laminations
	0.7		5.70–5.72		Dark grey fine sub-angular gravel
	0.8		5.72–6.00		Brownish grey orange-stained fine grained SANDSTONE (THE ROUGH ROCK) with frequent extremely closely spaced dark orange sub-horizontal laminations and very closely spaced sub-horizontal fractures
	0.9				
	1.0				
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 97%. Rock Quality Designation = 62%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	150.108 (GL)	614
	Client	Barratt Homes	Co-ordinates	E: 380959.793; N: 413950.404	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	07/12/2023	4–5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
	0.0		5.00–5.06	Grey orange stained medium grained SANDSTONE (THE ROUGH ROCK)	
	0.1		5.06–5.12	Grey medium grained SANDSTONE (THE ROUGH ROCK) with thin dark grey laminations	
	0.2		5.12–5.40	Grey orange stained medium grained SANDSTONE (THE ROUGH ROCK) with sub-horizontal fracture	
	0.3				
	0.4		5.40–5.50	Brown to grey orange stained SANDSTONE (THE ROUGH ROCK) with sub-horizontal and sub-vertical cracks	
	0.5		5.50–5.54	Non-intact brownish grey orange stained SANDSTONE (THE ROUGH ROCK) fine angular gravel	
	0.6		5.54–5.66	Incomplete section. Grey orange stained medium grained SANDSTONE (THE ROUGH ROCK) with dark grey laminations	
	0.7		5.66–5.72	Non-intact brownish grey orange stained SANDSTONE (THE ROUGH ROCK) fine to medium sub-angular gravel	
	0.8		5.72–5.98	Grey to dark grey orange medium grained SANDSTONE (THE ROUGH ROCK) with dark grey laminations	
	0.9				
1.0			5.98–6.00	AZCL: 5.98–6.00 m	
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 98%. Rock Quality Designation = 66%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	150.108 (GL)	614
	Client	Barratt Homes	Co-ordinates	E: 380959.793; N: 413950.404	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	07/12/2023	5–6 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0  0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0			5.00–5.08		Grey orange stained medium grained SANDSTONE (THE ROUGH ROCK)
			5.08–5.26		Grey medium grained SANDSTONE (THE ROUGH ROCK), occasionally mottled brown
			5.26–5.44		Grey orange stained, occasionally brown, medium grained SANDSTONE (THE ROUGH ROCK); sub-horizontal fracture
			5.44–5.56		Grey medium grained SANDSTONE (THE ROUGH ROCK), occasionally mottled brown
			5.56–5.66		Grey orange stained medium grained SANDSTONE (THE ROUGH ROCK)
			5.66–5.68		Horizontal fracture with dark brown sub-angular fine gravel
			5.68–5.72		Grey orange stained medium grained SANDSTONE (THE ROUGH ROCK)
			5.72–5.76		Horizontal fracture; black stained medium grained SANDSTONE (THE ROUGH ROCK)
			5.76–5.92		Brownish grey medium grained SANDSTONE (THE ROUGH ROCK) with occasional sub-horizontal orange stained bands; sub-horizontal fracture
			5.92–5.96		Dark brown medium grained SANDSTONE (THE ROUGH ROCK)
			5.96–6.00		AZCL: 5.96–6.00 m
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 96%. Rock Quality Designation = 73%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	3–4 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
			3.00–3.38		AZCL: 3.00–3.38 m
			3.38–3.82		Greyish-brown SANDSTONE (THE ROUGH ROCK) with frequent orange staining; sub-horizontal closely to medium spaced fractures
			3.82–4.00		Greyish-brown SANDSTONE (THE ROUGH ROCK) with occasional orange staining, occasional mottled brown ; sub-horizontal closely to medium spaced fractures
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 55%. Rock Quality Designation = 17%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	4–5 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			4.00–4.32		Greyish-brown orange stained fine grained SANDSTONE (THE ROUGH ROCK); sub-horizontal closely spaced fractures
			4.32–4.40		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK)
			4.40–4.46		Greyish-white orange stained fine grained SANDSTONE (THE ROUGH ROCK) with horizontal fracture
			4.46–4.52		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK)
			4.52–4.68		Greyish-white orange stained fine grained SANDSTONE (THE ROUGH ROCK); sub-horizontal closely spaced fractures
			4.68–4.82		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK)
			4.82–4.90		Greyish-white orange stained fine grained SANDSTONE (THE ROUGH ROCK) with sub-horizontal crack
			4.90–5.00		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK)
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 98%. Rock Quality Designation = 62%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	5–6 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0  0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0			5.00–5.10		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK)
			5.10–5.14		Greyish-white orange stained fine grained SANDSTONE (THE ROUGH ROCK)
			5.14–5.16		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK)
			5.16–5.28		Greyish-white orange stained fine grained SANDSTONE (THE ROUGH ROCK)
			5.28–6.00		Greyish-brown orange stained medium grained SANDSTONE (THE ROUGH ROCK) with widely spaced sub-horizontal fractures
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 97%. Rock Quality Designation = 96%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	6–7 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			6.00–6.88		AZCL: 6.00–6.88 m
			6.88–7.00		Greyish-white fine grained SANDSTONE (THE ROUGH ROCK) with occasional orange staining
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 11%. Rock Quality Designation = 11%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

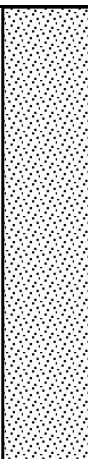
	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	7–8 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			7.00–7.72		Greyish-brown orange stained medium grained SANDSTONE (THE ROUGH ROCK) with closely to widely spaced sub-horizontal fractures
			7.72–7.96		Greyish-brown mottled dark brown fine grained SANDSTONE (THE ROUGH ROCK)
			7.96–8.00		AZCL: 7.96–8.00 m
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 94%. Rock Quality Designation = 72%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	8–9 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			8.00–8.22		Greyish-brown orange stained mottled black medium grained SANDSTONE (THE ROUGH ROCK)
			8.22–9.00		Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining and medium space fractures
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 100%. Rock Quality Designation = 96%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	9–10 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
	0.0		9.00–9.12		Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining
	0.1		9.12–9.44		AZCL: 9.12–9.44 m
	0.2				
	0.3				
	0.4				
	0.5		9.44–10.00		Greyish-brown orange stained medium grained SANDSTONE (THE ROUGH ROCK) with closely spaced sub-horizontal fractures
	0.6				
	0.7				
	0.8				
	0.9				
	1.0				
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 71%. Rock Quality Designation = 31%. 9.00–9.12 m section recovered from preceeding run. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	10–11 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			10.00–10.88		Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining; closely to medium spaced sub-horizontal fractures
			10.88–11.00		Partial recovery. Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 90%. Rock Quality Designation = 88%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	11–11.86 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
	0.0		11.00–11.12	 Greyish-brown orange stained medium grained SANDSTONE (THE ROUGH ROCK) with occasional black inclusions	
	0.1		11.12–11.50		
	0.2				
	0.3				
	0.4				
	0.5		11.50–11.86	 Partial recovery. Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining	
	0.6				
	0.7				
	0.8				
	0.9				
	1.0				
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 100%. Rock Quality Designation = 98%. TCR and RQD based upon 0.86 m section. Remainder of core section recovered as part of following run. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

		Core Logging				
		Project ID	A231001	Hole Type	Rotary	Borehole ID
		Project Name	Tetrosyl	Level	151.078 (GL)	615
		Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
		Logged By	James Bradley/Tom Mullan	Date	06/12/2023	11.86–12.06 m
Core Photography		Sampling		Depth (mbgl)	Stratum Description	
		Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 				11.86–12.06		Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 100%. Rock Quality Designation = 100%. TCR and RQD based on 0.2 m section. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.						
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416						

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	07/12/2023	12–13 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			12.00–12.80		AZCL: 12.0–12.8 m
			12.80–13.00		
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 20%. Rock Quality Designation = 0%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	13–14 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			13.00–13.36	Partial recovery. Greyish-brown orange stained medium grained SANDSTONE (THE ROUGH ROCK)	
			13.36–13.60	Dark greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with closely spaced fractures	
			13.60–14.00	Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining; very closely to closely spaced fractures	
Comments: Core logged while frozen. AZCL: Assumzed Zone of Core Loss. Total Core Recovery = 96%. Rock Quality Designation = 43%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

	Core Logging				
	Project ID	A231001	Hole Type	Rotary	Borehole ID
	Project Name	Tetrosyl	Level	151.078 (GL)	615
	Client	Barratt Homes	Co-ordinates	E: 380964.914; N: 413973.989	Depth Range
	Logged By	James Bradley/Tom Mullan	Date	06/12/2023	14–15 m
Core Photography	Sampling		Depth (mbgl)	Stratum Description	
	Depth (mbgl)	Results			
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 			14.00–14.84	Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining	
			14.84–14.88		Thin band of possible COAL
			14.88–14.96		Greyish-brown medium grained SANDSTONE (THE ROUGH ROCK) with frequent orange staining
			14.96–15.00		AZCL: 14.96–15.00
Comments: Core logged while frozen. AZCL: Assumed Zone of Core Loss. Total Core Recovery = 94%. Rock Quality Designation = 85%. TCR and RQD have been calculated without differentiating between natural and drilling induced fractures.					
CE Geotech, CEG Laboratories, Matlock Road, S45 0DX, Tel. 01629 584 416					

APPENDIX B

GROUNDWATER FIELDWORK DATA RECORDS

GROUNDWATER MONITORING LOG

Site name:	Tetrosyl	Job number:	R2174	Weather Conditions:	dry / overcast	Ground Conditions:	damp
Time at:	start 7.45	Date:	24.01.24-25.01.24	Sampling Method:	waterra tubing /bailer	Purge Method:	steady state
	finish 4.30	Staff:	MJ/CM	Pump (if used):	Submersible / Peristaltic	Date of Equipment Last Calibration:	22.01.24
Record code:	GW01						

Well No.	GW depth TOS*	GW depth BGL	Depth to base TOS*	Depth to base BGL	Time	Volume purged ¹	Temp	DO	SPC	pH	ORP(eH)	Turbidity	Observations
	m bgl	m bgl	m bgl	m bgl		l	°C	mg l ⁻¹	µs cm ⁻¹	units	mV	NTU	
24.01.24													
RBH608	1.28	0.25	5.75	4.75	8.14	20	7.4	1.63	0.468	7.51	32.7	0.3068	-
					8.19	23	7.4	1.35	0.468	7.49	29.2	0.3041	
					8.24	25	7.5	2.03	0.469	7.46	43	0.3048	
					8.26	26	7.5	1.81	0.468	7.46	43.8	0.3047	
					8.28	27	7.5	1.27	0.468	7.46	45.7	0.3036	
RBH607	2.2	1.37	6.74	5.85	8.32	29	7.4	1.25	0.467	7.45	46.1	0.3036	-
					8.51	30	9.7	1.41	0.514	7.81	27.2	0.3323	
					8.57	34	10.2	0.71	0.51	7.81	21.7	0.3322	
					9.02	36	10.3	0.43	0.51	7.82	13.7	0.3321	
					9.15	42	10.4	0.31	0.51	7.81	10.6	0.3309	
RBH603(D)	0	0	9.56	8.78	9.17	44	10.4	0.34	0.509	7.81	10.2	0.331	Artesian conditions
					9.37	30	10	2.06	0.402	7.29	43.4	0.2614	
					9.39	31	10.1	2.01	0.4005	7.27	46.1	0.2606	
RBH603(s)	0.52	0.23	4.53	4.23	9.43	35	10.2	2	0.3987	7.26	49.1	0.2589	-
					10	14	9.5	1.22	0.3974	7.24	58.7	0.2593	
					10.05	16	9.9	4.16	0.3901	7.19	56.7	0.2574	
					10.07	17	9.9	4.45	0.3957	7.2	55.9	0.257	
RBH601(D)	1.13	0.52	11.33	10.74	10.09	18	9.9	4.51	0.3945	7.19	55.7	0.2562	-
					10.32	37	8.2	7.42	0.4548	7.47	48.9	0.2979	
					10.38	38	9.2	6.27	0.4574	7.31	63.8	0.2973	
RBH601(s)	1.18	0.61	7.77	7.18	10.4	40	9.3	6.24	0.456	7.3	64.7	0.2965	-
					10.58	22	9.3	6.06	0.4537	7.4	66.8	0.2948	
					11.01	23	9.6	5.92	0.4529	7.34	69	0.2946	
					11.05	24	9.6	5.89	0.452	7.27	69	0.2939	
RBH609(D)	3.37	2.8	8.7	8.1	11.07	25	9.6	5.92	0.4522	7.26	69.3	0.2935	-
					11.34	31	10	2.5	0.4648	7.66	65.1	0.3005	
					11.4	34	10.5	0.74	0.4465	7.58	59.2	0.2893	
					11.46	36	10.5	0.9	0.4417	7.55	56	0.2869	
					11.48	38	10.5	0.5	0.4414	7.55	55	0.2871	
RBH609(s)	3.26	2.6	4.93	4.27	11.5	39	10.5	0.55	0.4364	7.55	52.3	0.2834	Strong, sweet, chemical odour; grey sediment
					12.28	15	9.5	0.3	0.807	8.38	-26.6	0.524	
					12.36	18	9.6	0.27	0.798	8.4	-48.5	0.518	
					12.45	22	9.6	0.32	0.8	8.4	-58.5	0.52	
					12.49	24	9.6	0.41	0.804	8.4	-61.1	0.523	
RBH610(D)	2.84	2.1	8.62	7.91	12.52	26	9.6	0.38	0.806	8.4	-61	0.524	-
					1.34	30	10.2	0.81	0.362	7.53	23.9	0.2356	
					1.38	31	10.5	0.4	0.3538	7.49	26.3	0.2295	
					1.41	32	10.5	0.67	0.3514	7.48	26.9	0.2285	
					1.44	34	10.4	0.53	0.349	7.47	27.2	0.2265	
					1.47	36	10.4	0.3	0.3467	7.46	27.5	0.2251	
					1.51	38	10.4	0.27	0.3449	7.46	27.6	0.224	
					1.55	40	10.4	0.25	0.3419	7.46	27.7	0.2235	
RBH321	6.88	6.2	3.25	2.61	2.12	14	9.9	0.61	1.109	8.02	-45.7	0.721	Moderately strong, sweet, chemical odour
					2.15	15	10.1	0.62	1.112	8.04	-54.2	0.723	
					2.2	17	9.8	2.02	1.14	8.14	-71.8	0.743	
					2.28	21	9.8	3.22	1.137	8.16	-72.2	0.746	
					2.33	23	9.8	3.43	1.151	8.16	-73.1	0.749	
					2.37	25	9.8	3.39	1.152	8.16	-73.3	0.749	
RBH320	2.44	1.93	5.94	5.45	2.5	14	9	3.91	1.207	8.22	-42.4	0.785	Strong, sweet, chemical odour; black sediment
					3.02	20	9	4.85	1.229	8.23	-56.4	0.799	
					3.05	21	9	4.32	1.231	8.23	-57	0.826	
					3.07	22	9	4.37	1.232	8.23	-57.2	0.813	
RBH615(D)	3.66	2.59	12.65	11.63	3.2	40	10.2	1.24	0.4572	7.98	-23.2	0.2942	Slight, sweet, chemical odour
					3.23	41	10.2	0.79	0.4529	7.89	-23.5	0.2939	
					3.26	42	10.2	0.57	0.4485	7.88	-23	0.2926	
					3.28	44	10.2	0.3	0.4474	7.87	-22.8	0.2906	
					3.3	45	10.3	0.32	0.4475	7.87	-23.1	0.2909	
RBH615(S)	3.49	2.61	5.72	4.85	4	14	8.9	0.71	1.398	7.99	7.9	0.908	Slight, sweet, chemical odour; brown sediment
					4.05	16	9	0.35	1.397	7.99	1.8	0.907	
					4.08	18	9	0.41	1.392	7.99	-2.3	0.904	
					4.1	19	9.1	0.36	1.388	8	-6.7	0.902	
					4.12	20	9.1	0.35	1.386	8	-8.1	0.901	
25.01.24													
RBH614(s)	2.34	2.21	4.51	4.37	8.32	20	9.5	2.71	0.98	8.23	5.8	0.624	-
					8.34	21	10	1.45	0.964	8.27	3.3	0.626	
					8.37	23	10	1.19	0.973	8.32	-23.7	0.633	
					8.39	24	10.1	0.89	0.979	8.34	-38.2	0.631	
					8.41	25	10.1	0.63	0.974	8.35	-45.1	0.625	
					8.44	27	10.1	0.38	0.961	8.34	-49.3	0.619	
					8.46	28	10.2	0.41	0.955	8.34	-53.4	0.619	
Rbh614 (D)	2.96	2.13	11.8	10.4	9.04	40	10.1	0.54	0.614	8.29	-51.2	0.417	-
					9.07	42	10.3	0.48	0.614	8.29	-56.7	0.4172	
					9.1	43	10.4	0.54	0.615	8.29	-64.2	0.4168	

RBH612	2.72	1.75	6.68	5.72	9.28	20	9.9	1.86	0.601	8.3	-14.7	0.3891	-
					9.35	23	10.3	0.35	0.602	8.09	-15.7	0.3917	
					9.38	24	10.4	0.35	0.602	8.09	-15.9	0.3902	
RBH613	3.89	3.16	11.98	11.2	10.12	35	10.3	0.88	0.843	8.15	-30.8	0.546	-
					10.14	36	10.3	0.52	0.839	8.15	-32.2	0.545	
					10.16	37	10.1	0.23	0.851	8.15	-36.4	0.553	
					10.25	41	10.2	0.2	0.849	8.15	-37.5	0.552	
RBH605	4.45		7.45		10.52	28	9.9	0.94	0.3029	7.45	24.1	0.1935	-
					10.54	31	10.1	0.91	0.2908	7.41	27.8	0.1835	
					10.57	32	10.2	1.56	0.2907	7.4	29.8	0.1841	
					11	34	10.2	2.05	0.3022	7.4	31.2	0.193	
					11.03	35	10.2	1.99	0.3013	7.4	32.4	0.1931	
RBH604(s)	0	0	6.4	6.1	11.3	5	10.2	3.64	0.4172	7.14	54.4	0.2711	Artesian conditions
					11.32	7	10.2	6.49	0.4171	7.13	54.7	0.2711	
					11.34	8	10.3	3.39	0.417	7.13	55.4	0.2707	
					11.36	9	10.3	3.34	0.4161	7.13	55.7	0.2705	
RBH604(D)	0	0	12.43	11.37	11.49	5	10.1	4.14	0.4265	7.29	58.9	0.2766	Artesian conditions
					11.55	7	10.1	4.06	0.4207	7.2	61.6	0.2735	
					11.57	8	10.1	4.09	0.4195	7.2	61.9	0.2728	
RBH606(S)	3.3	2.2	10.5	8.5	12.18	28	10.8	0.32	0.513	7.56	50	0.3315	-
					12.21	30	10.9	0.27	0.508	7.56	47.3	0.3303	
					12.24	32	10.9	0.28	0.508	7.56	46.5	0.3303	
RBH606(D)	2.2	1.19	12.39	11.37	12.35	42	10.4	0.34	0.4619	7.45	46.3	0.3303	-
					12.38	44	10.5	0.31	0.4612	7.45	46	0.2999	
					12.41	45	10.5	0.36	0.462	7.45	45.7	0.3005	
RBH602	3.11	2.26	10.17	9.37	13.1	35	10.8	0.34	1.116	8.29	-22.1	0.725	Brown sediment
					13.33	36	10.7	0.47	1.127	8.36	-68.6	0.732	
					13.36	37	10.6	0.26	1.126	8.36	-70.1	0.732	
					13.38	38	10.6	0.21	1.128	8.37	-77.3	0.732	
					13.4	40	10.6	0.2	1.128	8.36	-77.3	0.732	

*TOS = Top of standpipe

GROUNDWATER MONITORING LOG

Site name:	Tetrosyl	Job number:	R2174	Weather Conditions:	dry / overcast	Ground Conditions:	damp
Time at:	start	Date:	03.04.24 - 04.04.24	Sampling Method:	waterra tubing /bailer	Purge Method:	steady state
	finish	Staff:	MJ/CM	Pump (if used):	Submersible / Peristatic	Date of Equipment Last Calibration:	02.04.24
Record code:	GW02						

Well No.	GW depth TOC	GW depth BGL	Depth to base TOC	Depth to BGL	Time	Volume purged ¹	Temp	DO	DO	SPC	pH	ORP(eH)	TDS	Description / Observations	
	m bgl ²	m bgl ²	m bgl ²	m bgl ²		l	°C	%	mg l ⁻¹	µs cm ⁻¹	units	mV			
03.04.24															
RBH601(D)	1.34	0.82	11.38	10.84		94	9.13	10.4	62.8	6.74	0.847	6.76	40.5	0.313	
							9.16	10.3	50.5	5.69	0.476	6.12	63.7	0.4743	
							9.2	10.2	47.4	5.31	0.4614	6	78.2	0.3043	
							9.23	10.3	47.6	5.33	0.4616	5.95	87	0.2995	
							9.28	10.2	44.7	5	0.4608	5.95	89.7	0.298	
RBH601 (s)	0.85	0.34	7.77	7.18		70	9.46	10.2	82.9	9.19	0.4658	6.01	84.6	0.3021	
							9.48	10.2	75	8.37	0.4642	5.96	86.7		
							9.51	10.2	61.4	6.84	0.461	5.91	90.1	0.2993	
							9.55	10.2	50.1	5.61	0.4201	5.88	91.1	0.299	
							9.56		47.2	5.81	0.4601	5.88	91.9	0.299	
RBH614(s)	2.42	2.28	6.34	4.5		28	10.3	9.8	14.5	1.88	0.849	6.89	-75.7	0.552	
							10.32	9.8	7.8	0.86	0.849	6.9	-79.5	0.552	
							10.34	9.8	5.6	0.59	0.849	6.91	-82.7	0.552	
							10.36	9.8	4.9	0.51	0.849	6.91	-84.7	0.552	
RBH320	2.7	2.23	5.91	5.31		36	11.16	8.9	8.3	0.92	0.974	6.87	-78.6	0.634	Strong, sweet, chemical odour; black sediment
							11.18	8.8	6.4	0.75	0.944	6.87	-77.8	0.626	
							11.2	8.8	6.7	0.78	0.92	6.86	-81.6	0.585	
							11.22	8.7	8.5	0.99	0.867	6.86	-83	0.574	
							11.24	8.7	11.8	1.37	0.88	6.86	-85.9	0.568	
							11.26	8.7	11.6	1.44	0.872	6.86	-86.3	0.564	
							11.28	8.7	13.3	1.52	0.887	6.86	-86.5	0.563	
RBH605	3.53	2.47	7.45	6.95		46	12.5	10.3	38.4	4.08	0.2937	6.55	2.2	0.191	Sandy sediment
							12.55	10.3	17.8	2.09	0.2936	5.47	5.5	0.2039	
							13.01	10.4	11.8	1.31	0.2955	6.37	10.8	0.1916	
							13.05	10.4	10.8	1.19	0.2944	6.35	12	0.1917	
							13.08	10.4	12.7	1.4	0.2875	6.25	18.6	0.1857	
							13.1	10.4	11.7	1.15	0.2799	6.21	25.4	0.1814	
RBH321	3.56	2.9	6.84	6.17		38	14.21	9.8	12	1.35	0.515	6.23	-71.2	0.3142	Moderately strong, sweet, chemical odour, no sediment
							14.25	9.8	10.9	1.23	0.3604	6.22	-72.5	0.2192	
							14.31	9.7	7.7	0.88	0.3301	6.22	-78.9	0.218	
							14.34	9.7	8.1	0.93	0.3286	6.22	-79	0.2183	
RHH609(D)	3.25	2.61	8.7	8.02		60	14.53	9.9	18.8	3.77	1.005	6.94	0.7	0.653	
							14.59	9.9	27.6	3.06	0.993	6.94	3.2	0.645	
							15.01	9.9	27.7	3.09	0.984	6.87	5.9	0.639	
							15.03	9.9	25.1	2.81	0.978	6.79	7.7	0.634	
							15.06	10	24.9	2.74	0.971	6.74	9.1	0.628	
RBH609(S)	3.67	3.36	4.98	4.37		23	15.1	9.2	2.9	0.39	1.278	6.92	-90.6	0.83	Strong, sweet, chemical odour, grey sediment
							15.14	9.2	2.8	0.32	1.274	6.92	-90.9	0.828	
							15.16	9.2	2.7	0.37	1.272	6.92	-91.2	0.827	
RBH610(D)	2.97	2.23	8.8	8.1		57	15.24	10.4	67.1	8.06	0.3444	6.16	19.1	0.2281	
							15.27	10.4	67.1	7.06	0.2118	6.16	20.2	0.142	
							15.29	10.4	83.2	9.41	0.2078	6.16	21.2	0.1341	
							15.31	10.4	77.2	8.58	0.2314	6.14	21.8	0.1945	
RBH615(s)	3.41	2.59	7.73	5.86		28	15.45	9.4	31.1	3.61	0.9	6.65	-85.2	0.585	Slight, sweet, chemical odour; brown sediment
							15.47	9.4	35	4.01	0.9	6.64	-84.8	0.585	
							15.49	9.5	7.8	0.89	0.899	6.65	-84.8	0.585	
							15.52	9.5	8.5	0.98	0.899	6.65	-84.8	0.585	
							15.54	9.5	9.7	1.11	0.899	6.65	-84.8	0.585	
							15.56	9.5	11.6	1.35	0.899	6.65	-84.7	0.585	
							15.57	9.5	12	1.36	0.899	6.65	-84.8	0.585	
RBH615(D)	3.54	2.52	12.59	11.57		84	4.02	9.8	36	4.04	0.584	6.65	-51.2	0.3793	Slight, sweet, chemical odour; no sediment
							4.04	10.2	23.6	2.52	0.584	6.76	-64.3	0.3784	
							4.07	10.2	15.1	1.61	0.582	6.78	-68.5	0.3781	
							4.09	10.2	13.8	1.53	0.58	6.79	-74.1	0.3767	
							4.14	10.5	13.6	1.55	0.567	6.81	-105.1	0.3684	
							4.16	10.5	14.5	1.56	0.566	6.81	-106.1	0.368	
RBH614(D)	2.97	2.18	11.17	10.38		28	4.3	10.3	2.9	0.43	0.617	6.95	-107.4	0.4022	
							4.32	10.3	3.7	0.41	0.618	6.95	-108	0.4015	
							4.34	10.3	3.6	0.4	0.618	6.95	-108.1	0.4017	
04.04.23															
RBH603(D)	0.39	AGL	9.56	8.74		7	8.56	9.6	29.1	3.27	0.4337	5.95	60.9	0.2811	Artesian
							9.03	10.1	26.9	3.01	0.4295	5.94	62.1	0.2799	
							9.05	10.1	26.4	2.96	0.428	5.9	66.8	0.2771	
							9.07	10.1	25.1	2.85	0.4255	5.89	68.1	0.2772	
							9.1	10.1	25	2.8	0.4244	5.87	70.1	0.2754	
RBH603(s)	1.05	0.53	4.84	4.32		5	9.21	9.5	5.3	0.58	0.4113	5.88	63.9	0.2875	
							9.25	9.5	4.2	0.47	0.411	5.85	65	0.2674	
							9.27	9.5	10.2	1.25	0.412	5.85	63.1	0.2675	
							9.29	9.4	13.6	1.55	0.4121	5.86	54.1	0.268	
							9.31	9.4	9.9	1.12	0.4126	5.86	50.8	0.2681	

RBH607	2.62	2.42	6.65	5.94	10.02	55	9.4	54.9	4	0.936	6.45	42.1	0.63	
					10.06		10.3	3.9	0.43	0.969	6.42	26.2	0.629	
					10.08		10.3	3.6	0.59	0.976	6.41	25.7	0.625	
					10.1		10.3	8.4	0.69	0.986	6.41	23.3	0.629	
					10.11		10.3	7.8	0.89	0.977	6.41	22.7	0.629	
RBH612	2.92	1.98	6.63	5.71	10.33	40	10	3.4	0.59	1.052	6.71	-15.7	0.684	
					10.35		10	3.3	0.4	1.053	6.71	-17.3	0.683	
					10.38		10	3.5	0.42	1.043	6.72	-19.7	0.685	
					11.05		10.2	7.1	0.81	0.643	6.69	-29.7	0.4179	
RBH613	2.23	1.21	12.05	11.03	11.07	78	10.2	7.8	0.97	0.642	6.69	-30.1	0.4124	
					11.1		10.2	13.3	1.45	0.64	6.71	-38.7	0.4158	
					11.13		10.2	11.1	1.19	0.639	6.71	-39.2	0.4159	
					11.15		10.2	10.5	1.18	0.636	6.69	-40.2	0.4133	
					11.35		10.5	7.3	0.76	0.767	6.54	-40.3	0.498	
RBH606(s)	2.6	1.78	9.63	8.81	11.37	63	10.5	5.2	0.57	0.762	6.55	-41	0.495	
					11.4		10.5	5.5	0.62	0.761	6.55	-41.1	0.494	
					11.42		10.5	5.2	0.67	0.759	6.55	-41.2	0.493	
					11.43		10.5	6.9	0.77	0.759	6.55	-41.7	0.493	
					11.44		10.5	8.3	0.94	0.758	6.55	-41.8	0.493	
					11.45		10.5	9	1	0.758	6.55	-41.8	0.492	
					11.47		10.5	9	0.91	0.759	6.55	-41.8	0.492	
					11.48		10.5	8.4	0.98	0.758	6.55	-41.8	0.492	
RBH606(D)	4.37	3.33	12.56	11.51	12.04	100	11	6.7	0.75	0.525	6.3	5.5	0.3408	Brown sediment
					12.1		11	9	1.01	0.524	6.3	5.3	0.3407	
					12.14		11	9.4	1.05	0.525	6.3	5.4	0.341	
					12.16		11	9.8	1.09	0.524	6.3	5.2	0.3417	
					12.19		11	10.6	1.17	0.525	6.3	5.3	0.3415	
					12.2		11	10.7	1.17	0.525	6.3	5.3	0.3418	
					12.23		11	10.7	1.18	0.525	6.3	5.2	0.3415	
					12.43		11.7	1.8	0.19	1.177	7.02	-86.6	0.765	Brown sediment
RBH602	3.34	2.44	10.19	9.29	12.5	75	11.7	1.7	0.19	1.177	7.02	-86.7	0.765	
					12.55		11.7	1.6	0.17	1.178	7.02	-88.7	0.767	
					12.57		11.7	1.5	0.16	1.178	7.02	-88.8	0.767	
RBH604(s)	AGL	AGL	6.35	6.7	1.41	55	10.9	31.9	3.5	0.944	5.81	59	0.613	Artesian conditions
					1.43		10.9	33.2	3.68	0.942	5.78	65.1	0.613	
					1.45		10.9	33.8	3.78	0.943	5.78	65.3	0.613	
					1.48		10.9	33.1	3.78	0.943	5.78	66.1	0.605	
RBH604(d)	0.9	AGL	12.5	11.33	2.08	105	11.2	47.9	5.11	0.963	5.85	66	0.621	Artesian conditions
					2.1		10.8	34.2	4.32	0.945	5.8	68.1	0.592	
					2.12		10.7	38	4.21	0.911	5.75	74.1	0.593	
					2.14		10.6	38.1	4.22	0.909	5.75	74.9	0.593	
RBH608	1.86	0.84	5.81	4.79	2.42	44	9	6.4	0.75	0.49	6	68.5	0.3186	
					2.44		8.8	5.1	0.58	0.49	6	68.4	0.3183	
					2.45		8.8	4.6	0.52	0.49	6	68.4	0.3183	
					2.47		8.8	4.3	0.5	0.49	6	68.4	0.3183	
					2.49		8.8	4.1	0.49	0.49	6	68.4	0.3183	

APPENDIX C

SITE PHOTOGRAPHS

Site Investigation Photolog

1.



08.12.23: RBH601 – Location

2.



08.12.23: RBH601 – Core (4.5-7.5m)

3.



08.12.23: RBH601 – Core (7.5-10.5m)

4.



08.12.23: RBH601 – Core (10.5-13.5m)

5.



06.01.24: RBH602 – Location

6.



06.01.24: RBH602 – Core (10.5-13.5m)

7.



11.12.23: RBH603 – Location

8.



11.12.23: RBH603 – Core (3-6m)

9.



11.12.23: RBH603 – Core (6-9m)

10.



11.12.23: RBH603 – Core (9-12m)

11.



04.01.24: RBH604 – Location

12.



04.01.24: RBH604 – Core (4.5-7.5m)

13.



04.01.24: RBH604 – Core (7.5-10.5m)

14.



04.01.24: RBH604 – Core (10.5-12.5m)

15.



03.01.24: RBH605 – Location

16.



20.12.24: RBH605 – Core (4.5-6m)

17.



20.12.24: RBH605 – Core (6-9m)

18.



03.01.24: RBH605 – Core (9-12m)

19.



05.01.24: RBH606 – Location

20.



04.01.24: RBH606 – Core (3.35-4m)

21.



04.01.24: RBH606 – Core (4.5-7.5m)

22.



04.01.24: RBH606 – Core (7.5-9.5m)

23.



05.01.24: RBH606 – Core (9.5-12.5m)

24.



05.12.23: RBH607 – Location

25.



04.12.23: RBH607 – Core (1.5-3m)

26.



04.12.23: RBH607 – Core (3-6m)

27.



05.12.23: RBH607 – Core (6-9m)

28.



05.12.23: RBH607 – Core (9-10.5m)

29.



05.12.23: RBH608 – Location

30.



04.12.23: RBH608 – Core (1.5-3m)

31.



04.12.23: RBH608 – Core (3-6m)

32.



05.12.23: RBH608 – Core (7-10m)

33.



06.12.23: RBH609 – Location

34.



06.12.23: RBH609 – Core (3-6m)

35.



06.12.23: RBH609 – Core (6-9m)

36.



06.12.23: RBH609 – Core (9-12m)

37.



07.12.23: RBH610 – Location

38.



07.12.23: RBH610 – Core (6-9m)

39.



07.12.23: RBH610 – Core (9-12m)

40.



06.12.23: RBH611 – Location

41.



06.12.23: RBH611 – Core (3-6m)

42.



06.12.23: RBH611 – Core (6-9m)

43.



06.12.23: RBH611 – Core (9-12m)

44.



07.12.23: RBH612 – Location

45.



07.12.23: RBH612 – Core (6-9m)

46.



07.12.23: RBH612 – Core (9-12m)

47.



20.12.23: RBH613 – Location

48.



19.12.23: RBH613 – Core (6-9m)

49.



19.12.23: RBH613 – Core (9-10.5m)

50.



19.12.23: RBH613 – Core (10.5-13.5m)

51.



07.12.23: RBH614 – Location

52.



07.12.23: RBH614 – Core (3-6m)

53.



07.12.23: RBH614 – Core (6-9m)

54.



07.12.23: RBH614 – Core (9-12m)

55.



08.12.23: RBH615 – Location

NO PHOTOGRAPH

APPENDIX D

LABORATORY TEST CERTIFICATES

Phase 2 Sampling event 24-25 January 2024					Aliphatics											
Lab ref	Sample	Depth	Sample Type	Date sampled	>C5-C6	>C6-C8	>C8-C10	>C10-C12	>C12-C16	>C16-C21	>C21-C35	Total aliphatics C5-35	>C5-EC7	>EC7-EC8	>EC8-EC10	>EC10-EC12
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	48	29	21	5	10	10	10	98	10	10	10	5
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	10	10	10	5	10	10	10	17	10	10	10	5
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	512	17132	9407	5	10	10	10	27051	100	53437	46625	542
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	49	608	233	5	10	10	10	890	10	1962	1195	41
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	10	19	10	5	10	10	10	19	10	10	10	5
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	100	13584	6322	5	10	10	10	19906	100	45151	29068	676
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	199	12576	6801	54	10	10	10	19630	100	40900	33107	453
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	14	20	17	5	10	10	10	51	10	10	10	5
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	21	308	67	5	10	10	10	396	10	19	33	5
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	28	71	27	5	10	10	10	126	10	10	36	5
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	92	464	245	5	10	10	10	801	10	151	730	67
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	75	40	46	5	10	10	10	161	10	10	51	5
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	10	34	10	5	10	10	10	34	10	10	10	5
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	10	10	10	5	10	10	10	10	10	10	10	5
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	10	10	10	5	10	10	10	10	10	10	10	5

Min	10	10	10	5	10	10	10	10	10	10	10	5
Max	512	17132	9407	54	10	10	10	27051	100	53437	46625	676
Criteria			No breakthrough at compliance point	No breakthrough at compliance point								
	15,000	1,620,000			300	-	-	-	53.3	1349	12,600	257,000,000
	WHO	SS	SS	SS	WHO				SS	SS	SS	SS

Phase 2 Sampling event 24-25 January 2024				Aromatics						MTBE & BTEX						
Lab ref	Sample	Depth	Sample Type	Date sampled	>EC12-EC16	>EC16-EC21	>EC21-EC35	Total aromatics C5-35	Total aliphatics and aromatics(C5-35)	Methyl Tertiary Butyl Ether	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene	Total-Xylene
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	10	10	10	10	98	3.1	3.8	5	1	2	1	
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	10	10	10	10	10	2	0.5	5	1	2	1	
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	10	10	10	10	17	3.8	1.8	5	1	2	1	
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	10	10	10	10	10	0.6	0.5	5	1	2	1	
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	10	10	10	10	10	0.1	0.5	5	1	2	1	
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	10	10	10	10	10	0.1	0.5	5	1	2	1	
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	10	10	10	100604	127655	14.6	42.3	45156	6011	25450	4755	30205
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	10	10	10	3198	4088	2.4	3.4	2216	197	823	208	1031
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	10	10	10	10	19	0.7	1.2	5	1	2	1	
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	50	10	10	74945	94851	11.2	86.6	48798	6010	18873	3497	22370
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	10	10	10	74460	94090	10.3	35.4	42239	5660	20745	4456	25201
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	10	10	10	10	51	5.3	3.3	5	1	2	1	
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	10	10	10	52	448	0.7	2	22	15	12	2	14
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	10	10	10	36	162	5.2	4	5	12	15	3	18
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	10	10	10	958	1759	1.8	11.5	175	306	366	76	442
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	10	10	10	51	212	3.6	7.5	5	11	7	1	
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	10	10	10	10	10	0.2	0.5	5	1	2	1	
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	10	10	10	10	10	1.3	0.5	5	1	2	1	
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	10	10	10	10	10	0.4	0.5	5	1	2	1	
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	10	10	10	10	10	0.3	0.5	5	1	2	1	
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	10	10	10	10	34	2.3	0.6	5	2	2	1	
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	10	10	10	10	10	0.6	0.5	5	1	2	1	
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	10	10	10	10	10	0.6	0.5	5	1	2	1	

Min	10	10	10	10	10	0.1	0.5	5	1	2	1	
Max	50	10	10	100604	127655	14.6	86.6	48798	6011	25450	4755	30205
Criteria	90	90	90	-	-	60.7	53.3	1340	5520	30	30	9320
	WHO	WHO	WHO			SS	SS	SS	SS	EQS AA	EQS AA	SS

Phase 2 Sampling event 24-25 January 2024															
Lab ref	Sample	Depth	Sample Type	Date sampled	Dichlorodifluoromethane	Methyl Tertiary Butyl Ether	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene (1,1 DCE)	Dichloromethane (DCM)	trans-1-2-Dichloroethene	1,1-Dichloroethane
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	539	3.1	3	1	1	3	3	3	3	3	3
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	248	2	3	0.1	1	3	3	3	3	3	3
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	162	3.8	3	3	1	3	3	3	3	3	3
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	54	0.6	3	0.1	1	3	3	3	3	3	3
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	2	0.1	3	0.1	1	3	3	3	3	3	3
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	2	0.1	3	0.1	1	3	3	3	3	3	3
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	5	14.6	3	4	1	3	3	3	3	3	3
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	34	2.4	3	0.5	1	3	3	3	3	3	3
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	78	0.7	3	4.5	1	3	3	3	3	3	3
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	79	11.2	3	3.3	1	3	3	3	3	3	3
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	22	10.3	3	3.8	1	3	3	3	3	3	3
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	41	5.3	3	1.5	1	3	3	3	3	3	3
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	334	0.7	3	0.9	1	3	3	3	3	3	3
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	255	5.2	3	0.4	1	3	3	3	3	3	3
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	828	1.8	3	0.8	1	3	3	3	3	3	3
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	863	3.6	3	0.9	1	3	3	3	3	3	3
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	46	0.2	3	0.1	1	3	3	3	3	3	3
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	110	1.3	3	0.3	1	3	3	3	3	3	3
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	33	0.4	3	0.1	1	3	3	3	3	3	3
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	24	0.3	3	0.1	1	3	3	3	3	3	3
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	29	2.3	3	0.1	1	3	3	3	3	3	3
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	16	0.6	3	0.1	1	3	3	3	3	3	3
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	5	0.6	3	0.1	1	3	3	3	3	3	3

Min	2	0.1	3	0.1	1	3	3	3	3	3	3
Max	863	14.6	3	4.5	1	3	3	3	3	3	3
Criteria	-	60.7		1.02					27,400		
	SS			SS					SS		

Phase 2 Sampling event 24-25 January 2024															
Lab ref	Sample	Depth	Sample Type	Date sampled	cis-1-2-Dichloroethene	2,2-Dichloropropane	Bromochloro methane	Chloroform	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon tetrhloride	1,2-Dichloroethane	Benzene	Trichloroethene (TCE)	1,2-Dichloropropane
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	3.8	3	2
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	9	1	2	2	2	3	2	2	1.8	12	2
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	55	1	2	2	2	3	2	2	42.3	5	2
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	5	1	2	2	2	3	2	2	3.4	5	2
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	29	1	2	2	2	3	2	2	1.2	11	2
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	53	1	2	8	2	3	2	2	86.6	23	2
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	51	1	2	2	2	3	2	2	35.4	9	2
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	3.3	3	2
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	3	1	2	2	2	3	2	2	2	3	2
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	4	3	2
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	11.5	3	2
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	7.5	3	2
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.6	3	2
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.5	3	2
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	3	1	2	2	2	3	2	2	0.5	3	2

Min	3	1	2	2	2	3	2	2	0.5	3	2
Max	55	1	2	8	2	3	2	2	86.6	23	2
Criteria	171			76.6				10	53.3	55.8	
SS		SS		EQS AA		SS	SS				

Phase 2 Sampling event 24-25 January 2024					VOCs										
Lab ref	Sample	Depth	Sample Type	Date sampled	Dibromomethane	Bromodichloromethane	cis-1-3-Dichloropropene	Toluene	trans-1-3-Dichloropropene	1,1,2-Trichloroethane	Tetrthloroethene (PCE)	1,3-Dichloropropane	Dibromochloromethane	1,2-Dibromoethane	Chlorobenzene
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	3	2	2	45156	2	2	17	2	2	2	66
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	3	2	2	2216	2	2	3	2	2	2	3
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	3	2	2	48798	2	2	10	2	2	2	39
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	3	2	2	42239	2	2	7	2	2	2	55
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	3	2	2	22	2	2	3	2	2	2	2
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	3	2	2	175	2	2	3	2	2	2	2
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	3	2	2	5	2	2	3	2	2	2	2

Min	3	2	2	5	2	2	3	2	2	2	2	2
Max	3	2	2	48798	2	2	17	2	2	2	2	66
Criteria				1340			129					300
	SS						SS				WHO	

Phase 2 Sampling event 24-25 January 2024															
Lab ref	Sample	Depth	Sample Type	Date sampled	1,1,1,2-Tetrhaloroethane	Ethylbenzene	m/p-Xylene	o-Xylene	Total-Xylene	Styrene	Bromoform	Isopropylbenzene	1,1,2,2-Tetrhaloroethane	Bromobenzene	1,2,3-Trichloropropane
		m/bgl			ug/l	ug/l	ug/l	ug/l		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	2	6011	25450	4755	30205	2	2	79	4	2	3
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	2	197	823	208	1031	2	2	3	4	2	3
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	2	1	2	1	3	2	2	3	4	2	3
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	2	6010	18873	3497	22370	2	2	78	4	2	3
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	2	5660	20745	4456	25201	2	2	69	4	2	3
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	2	15	12	2	14	2	2	3	4	2	3
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	2	12	15	3	18	2	2	3	4	2	3
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	2	306	366	76	442	2	2	5	4	2	3
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	2	11	7	1		2	2	3	4	2	3
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	2	2	2	1		2	2	3	4	2	3
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	2	1	2	1		2	2	3	4	2	3
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	2	1	2	1		2	2	3	4	2	3

Min	2	1	2	1		2	2	3	4	2	3
Max	2	6011	25450	4755		2	2	79	4	2	3
Criteria		5,520	30	30	9320					-	

SS

EQS AA

EQS AA

SS

Phase 2 Sampling event 24-25 January 2024													
Lab ref	Sample	Depth	Sample Type	Date sampled	Propylbenzene	2-Chlorotoluene	1,3,5-Trimethylbenzene	4-Chlorotoluene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	4-Isopropyltoluene	1,3-Dichlorobenzene
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	130	3	435	3	5	1336	11	10	3
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	3	3	8	3	3	25	3	3	3
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	144	3	308	3	19	1047	15	12	3
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	123	3	342	3	6	1251	8	6	3
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	7	3	10	3	3	28	3	3	3
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	3	3	3	3	3	5	3	3	3
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	3	3	3	3	3	3	3	3	3

Min	3	3	3	3	3	3	3	3	3
Max	144	3	435	3	19	1336	15	12	3
Criteria			-		-		-	-	20/200

EQS AA/MAC

Phase 2 Sampling event 24-25 January 2024													
Lab ref	Sample	Depth	Sample Type	Date sampled	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	1,2,4-Trichlorobenzene	Hexhlorobuti ene	Naphthalene	1,2,3-Trichlorobenzene	2-Chlorophenol
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	3	10	3	2	3	3	31	3	20
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	3	9	3	2	3	3	7	3	1
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	3	5	3	2	3	3	5	3	1
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	3	3	3	2	3	3	2	3	1

Min	3	3	3	2	3	3	2	3	1
Max	3	10	3	2	3	3	31	3	20
Criteria	20/200	-	20/200				2/130		
EQS AA/MAC		EQS AA/MAC		EQS AA/MAC					

Phase 2 Sampling event 24-25 January 2024					Phenols										
Lab ref	Sample	Depth	Sample Type	Date sampled	2-Methylphenol	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	4-Chloro-3-methylphenol	4-Methylphenol	4-Nitrophenol	Penthlorophe nol	Phenol
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	29.4	10	10	27	10	20	0.5	54	200	20	20
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	10.9	0.5	0.5	1	0.5	1	0.5	5	10	1	1
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	67.6	0.5	0.5	36	0.5	1	0.5	119	10	1	1
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	39	0.5	0.5	36	0.5	1	0.5	67	10	1	2
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	1.4	0.5	0.5	10	0.5	1	0.5	2	10	1	1
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1

Min	0.5	0.5	0.5	1	0.5	1	0.5	1	10	1	1
Max	67.6	10	10	36	10	20	0.5	119	200	20	20
Criteria		-	-	4.2/140	-				-		1,430,000

EQS AA/MAC

SS

Phase 2 Sampling event 24-25 January 2024					PAHs									
Lab ref	Sample	Depth	Sample Type	Date sampled	2-Chloronaphthalene	2-Methylnaphthalene	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	1	1	0.3	0.011	0.44	0.202	0.021	0.008	0.005	0.005
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	20	20	13.4	0.005	0.246	0.103	0.168	0.018	0.021	0.018
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	1	1	0.5	0.005	0.024	0.01	0.005	0.005	0.005	0.005
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.011	0.009	0.005	0.005	0.005	0.005
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	1	5	18.6	0.005	0.073	0.128	0.033	0.005	0.005	0.005
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	1	2	9.5	0.005	0.12	0.046	0.092	0.017	0.066	0.065
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.207	0.092	0.018	0.007	0.019	0.021
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	1	1	0.1	0.005	0.312	0.213	0.058	0.013	0.008	0.005
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	1	1	0.1	0.01	0.154	0.064	0.147	0.039	0.306	0.037
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	1	1	1.6	0.005	1.442	0.816	0.147	0.051	0.023	0.01
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	1	1	0.8	0.005	0.732	0.508	0.044	0.016	0.005	0.005
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	1	1	0.9	0.005	0.005	0.005	0.019	0.007	0.028	0.03
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	1	1	0.1	0.005	0.005	0.005	0.012	0.005	0.012	0.013
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	1	1	0.1	0.005	0.009	0.009	0.021	0.006	0.021	0.023
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	1	1	0.1	0.005	0.017	0.018	0.019	0.005	0.005	0.005

Min	1	1	0.1	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Max	20	20	18.6	0.011	1.442	0.816	0.168	0.051	0.306	0.065		
Criteria		-	2/130	-	-	-	-	0.1	0.0063/0.12	-		
EQS AA/MAC					EQS AA/MAC					EQS AA/MAC		

Phase 2 Sampling event 24-25 January 2024														
Lab ref	Sample	Depth	Sample Type	Date sampled	Diethyl phthalate	Dimethyl phthalate	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Nitroaniline	2,4-Dinitrotoluene	2,6-Dinitrotoluene	3-Nitroaniline
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	20	20	20	20	20	20	20	10	20	20
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	1	1	3	1	1	1	1	0.5	1	1
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	1	1	2	1	1	1	1	0.5	1	1
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	1	1	1	1	1	1	1	0.5	1	1

Min	1	1	1	1	1	1	1	0.5	1	1
Max	20	20	20	20	20	20	20	10	20	20
Criteria						20/200		20/200	20/200	
					EQS AA/MAC		EQS AA/MAI EQS AA/MAC			

Phase 2 Sampling event 24-25 January 2024												Glycols					
Lab ref	Sample	Depth	Sample Type	Date sampled	Hexhloroben zene	Hexhlorobuti ene	Hexhlorocycl opentiene	Hexhloroetha ne	Isophorone	N-nitrosodi-n- propylamine	Nitrobenzene	Monoethylene glycol	Propylene glycol	Diethylene glycol	Triethylene glycol	Thiodiglycol	Resorcinol
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	20	20	20	20	10	10	20	10	10	10	10	10	10
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	20
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10

Min	1	1	1	1	0.5	0.5	1	10	10	10	10	10	10
Max	20	20	20	20	10	10	20	10	10	10	10	10	20
Criteria										14,000	14,000	14,000	14,000
										USEPA	USEPA	USEPA	USEPA

Phase 2 Sampling event 24-25 January 2024				Speciated Phenols										
Lab ref	Sample	Depth	Sample Type	Date sampled	Catechol	Phenol	m/p-cresol	o-cresol	Total cresols	Xylenols	1-naphthol	2,3,5-trimethyl phenol	2-isopropylphenol	Total Speciated Phenols HPLC
		m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l
24/1306	RBH607	4.00-6.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH608	3.00-5.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH603(S)	3.50-5.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH603(D)	7.00-9.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH601(S)	5.00-7.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH601(D)	9.00-11.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH609(S)	3.00-5.00	Ground Water	24/01/2024	10	20	100	50	150	80	10	10	10	30
24/1306	RBH609(D)	6.50-8.50	Ground Water	24/01/2024	10	10	20	20	30	60	10	10	10	10
24/1306	RBH610(D)	6.50-8.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH320	3.00-6.00	Ground Water	24/01/2024	10	10	150	100	250	70	10	10	10	30
24/1306	RBH321	3.00-6.00	Ground Water	24/01/2024	10	10	110	60	170	80	10	10	10	30
24/1306	RBH615(S)	3.00-5.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH615(D)	9.00-12.00	Ground Water	24/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH614(S)	4.00-6.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH614(D)	9.00-12.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH612	4.00-6.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH613	9.00-11.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH605	5.50-7.50	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH604(S)	5.50-7.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH604(D)	9.50-11.50	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH606(S)	3.00-5.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH606(D)	7.00-9.00	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10
24/1306	RBH602	7.50-10.50	Ground Water	25/01/2024	10	10	20	10	30	60	10	10	10	10

Min	10	10	20	10	30	60	10	10	10	10
Max	10	20	150	100	250	80	10	10	10	30
Criteria	14,000 USEPA	1,430,000 SS	-	-	-	-	-	-	-	-

Phase 2 Sampling event 03-04 April 2024				Aliphatics								Aromatics							
Sample	Depth	Sample Type	Date sampled	>C5-C6	>C6-C8	>C8-C10	>C10-C12	>C12-C16	>C16-C21	>C21-C35	Total aliphatics C5-35	>C5-EC7	>EC7-EC8	>EC8-EC10	>EC10-EC12	>EC12-EC16	>EC16-EC21	>EC21-EC35	Total aromatics C5-35
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	34	17	15	<5	<10	<10	<10	66	<10	<10	<10	<5	<10	<10	<10	
RBH608	3.00-5.00	Ground Water	04/04/2024	14	<10	<10	<5	<10	<10	<10	14	<10	<10	<10	<5	<10	<10	<10	
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	15	505	167	<5	<10	<10	<10	687	<10	1769	877	<5	<10	<10	<10	
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	657 _{AC}	17363 _{AC}	8352 _{AC}	25	<10	<10	<10	26397	<100 _{AC}	56719 _{AC}	41555 _{AC}	618	<10	<10	<10	
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<10	178	94	<5	<10	<10	<10	272	<10	528	431	<5	<10	<10	<10	
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<10	37	16	<5	<10	<10	<10	53	<10	60	43	<5	<10	<10	<10	
RBH320	3.00-6.00	Ground Water	24/01/2024	65	11828	5835	<5	<10	<10	<10	17728	74	40248	27130	657	<10	<10	<10	
RBH321	3.00-6.00	Ground Water	03/04/2024	81	3076	1777	<5	<10	<10	<10	4934	12	10083	8519	227	<10	<10	<10	
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	19	41	25	<5	<10	<10	<10	85	<10	<10	<10	<5	<10	<10	<10	
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	65	692	248	<5	<10	<10	<10	1005	10	107	428	<5	<10	<10	<10	
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	34	57	124	<5	<10	<10	<10	215	<10	42	369	<5	<10	<10	<10	
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	62	69	131	<5	<10	<10	<10	262	<10	19	324	<5	<10	<10	<10	
RBH612	4.00-6.00	Ground Water	04/04/2024	55	<10	<10	<5	<10	<10	<10	55	<10	<10	<10	<5	<10	<10	<10	
RBH613	9.00-11.00	Ground Water	04/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH605	5.50-7.50	Ground Water	03/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	31	332	20	<5	<10	<10	<10	383	<10	25	83	<5	<10	<10	<10	
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<10	99	<10	<5	<10	<10	<10	99	<10	<10	<10	<5	<10	<10	<10	
RBH602	7.50-10.50	Ground Water	04/04/2024	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	

Min	<10	17	15	<5	<10	<10	<10	<10	10	<10	<10	<5	<10	<10	<10	0
Max	657	17363	8352	25	<10	<10	<10	26397	74	56719	41555	657	<10	<10	<10	0
Criteria	15000	1,620,000	No breakthrough at compliance point	No breakthrough at compliance point	300	-	-	-	53.3	1340	12600	257,000,000	90	90	90	-
	WHO	SS	SS	SS	WHO				SS	SS	SS	SS	WHO	WHO	WHO	

Phase 2 Sampling event 03-04 April 2024					MTBE & BTEX																	
Sample	Depth	Sample Type	Date sampled	Total aliphatics and aromatics(C5-35)	Methyl Tertiary Butyl Ether	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene	total-Xylene	Dichlorodifluoromethane	Methyl Tertiary Butyl Ether	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene (1,1 DCE)	Dichloromethane (DCM)		
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
RBH607	4.00-6.00	Ground Water	04/04/2024		2.6	1.9	<5	<1	<2	<1	<3	591	2.6	<3	1	<1	<3	<3	<3	<3		
RBH608	3.00-5.00	Ground Water	04/04/2024		2.2	<0.5	<5	<1	<2	<1	<3	451	2.2	<3	0.3	<1	<3	<3	<3	<3		
RBH603(S)	3.50-5.00	Ground Water	04/04/2024		2.1	3.4	1923 ^{AB}	168	565	126		159	2.1	<3	1.6	<1	<3	<3	<3	<3		
RBH603(D)	7.00-9.00	Ground Water	04/04/2024		0.1	<0.5	<5	<1	<2	<1	<3	56	0.1	<3	<0.1	<1	<3	<3	<3	<3		
RBH601(S)	5.00-7.00	Ground Water	03/04/2024		<0.1	<0.5	<5	<1	<2	<1	<3	<2	<0.1	<3	<0.1	<1	<3	<3	<3	<3		
RBH601(D)	9.00-11.00	Ground Water	03/04/2024		<0.1	<0.5	<5	<1	<2	<1	<3	<2	<0.1	<3	<0.1	<1	<3	<3	<3	<3		
RBH609(S)	3.00-5.00	Ground Water	03/04/2024		23	50.2	61942 ^{AD}	8207 ^{AC}	29765 ^{AD}	6455 ^{AC}	36220	5	23	<3	4.4	<1	<3	<3	<3	<3		
RBH609(D)	6.50-8.50	Ground Water	03/04/2024		1.5	1.2	596	33	359	69	428	23	1.5	<3	0.5	<1	<3	<3	<3	<3		
RBH610(D)	6.50-8.00	Ground Water	03/04/2024		0.6	1.1	59	7	21	3	24	99	0.6	<3	3.6	<1	<3	<3	<3	<3		
RBH320	3.00-6.00	Ground Water	24/01/2024		13.2	88.5	47763 ^{AD}	6823 ^{AC}	19978 ^{AD}	3980 ^{AC}	23958	87	13.2	<3	3.9	<1	<3	<3	<3	<3		
RBH321	3.00-6.00	Ground Water	03/04/2024		8	12.8	10339 ^{AD}	1582 ^{AC}	6228 ^{AC}	1236 ^{AC}	7464	74	8	<3	5.2	<1	<3	<3	<3	<3		
RBH615(S)	3.00-5.00	Ground Water	03/04/2024		5.9	<0.5	<5	<1	<2	<1	<3	88	5.9	<3	1.8	<1	<3	<3	<3	<3		
RBH615(D)	9.00-12.00	Ground Water	03/04/2024		0.6	10.5	118	221	211	36	247	661	0.6	<3	0.4	<1	<3	<3	<3	<3		
RBH614(S)	4.00-6.00	Ground Water	03/04/2024		5.8	8.3	44	142	195	33	228	217	5.8	<3	0.7	<1	<3	<3	<3	<3		
RBH614(D)	9.00-12.00	Ground Water	03/04/2024		1.3	9.9	20	227	131	14	145	627	1.3	<3	0.7	<1	<3	<3	<3	<3		
RBH612	4.00-6.00	Ground Water	04/04/2024		3.1	<0.5	<5	<1	<2	<1	<3	871	3.1	<3	0.7	<1	<3	<3	<3	<3		
RBH613	9.00-11.00	Ground Water	04/04/2024		0.3	<0.5	<5	<1	<2	<1	<3	61	0.3	<3	<0.1	<1	<3	<3	<3	<3		
RBH605	5.50-7.50	Ground Water	03/04/2024		0.9	<0.5	<5	<1	<2	<1	<3	134	0.9	<3	0.3	<1	<3	<3	<3	<3		
RBH604(S)	5.50-7.00	Ground Water	04/04/2024		0.3	<0.5	<5	<1	<2	<1	<3	32	0.3	<3	<0.1	<1	<3	<3	<3	<3		
RBH604(D)	9.50-11.50	Ground Water	04/04/2024		<0.1	<0.5	<5	<1	<2	<1	<3	23	<0.1	<3	<0.1	<1	<3	<3	<3	<3		
RBH606(S)	3.00-5.00	Ground Water	04/04/2024		18.8	5.9	28	45	32	7		278	18.8	<3	0.2	<1	<3	<3	<3	<3		
RBH606(D)	7.00-9.00	Ground Water	04/04/2024		5.1	<0.5	<5	2	3	1		72	5.1	<3	<0.1	<1	<3	<3	<3	<3		
RBH602	7.50-10.50	Ground Water	04/04/2024		0.6	<0.5	<5	<1	<2	<1	<3	10	0.6	<3	<0.1	<1	<3	<3	<3	<3		

Min	0	<0.1	<0.5	<5	<1	<2	<1	<3	<2	<0.1	<3	<0.1	<1	<3	<3	<3	<3
Max	0	23	88.5	61942	8207	29765	6455	36220	871	23	<3	5.2	<1	<3	<3	<3	<3
Criteria	-	60.7	53.3	1340	5520	30	30	9320	-	60.7		1.02					27,400
		SS	SS	SS	SS	EQS AA	EQS AA	SS		SS		SS					SS

Phase 2 Sampling event 03-04 April 2024																				
Sample	Depth	Sample Type	Date sampled	trans-1-2-Dichloroethene	1,1-Dichloroethane	cis-1-2-Dichloroethene	2,2-Dichloropropane	Bromochloromethane	Chloroform	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon tetrachloride	1,2-Dichloroethane	Benzene	Trichloroethene (TCE)	1,2-Dichloropropane	Dibromomethane	Bromodichloromethane	cis-1-3-Dichloropropene	Toluene
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	1.9	<3	<2	<3	<2	<2	<5
RBH608	3.00-5.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<3	<3	6	<1	<2	<2	<2	<3	<2	<2	3.4	7	<2	<3	<2	<2	1923 ^{AB}
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	<3	<3	62	<1	<2	<2	<2	<3	<2	<2	50.2	4	<2	<3	<2	<2	61942 ^{AD}
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	1.2	<3	<2	<3	<2	<2	596
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	5	<3	23	<1	<2	<2	<2	<3	<2	<2	1.1	9	<2	<3	<2	<2	59
RBH320	3.00-6.00	Ground Water	24/01/2024	<3	4	58	<1	<2	10	3	<3	<2	<2	88.5	16	<2	<3	<2	<2	47763 ^{AD}
RBH321	3.00-6.00	Ground Water	03/04/2024	4	<3	28	<1	<2	<2	<2	<3	<2	<2	12.8	6	<2	<3	<2	<2	10339 ^{AD}
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	10.5	<3	<2	<3	<2	<2	118
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	8.3	<3	<2	<3	<2	<2	44
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	9.9	<3	<2	<3	<2	<2	20
RBH612	4.00-6.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH613	9.00-11.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH605	5.50-7.50	Ground Water	03/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	5.9	<3	<2	<3	<2	<2	28
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5
RBH602	7.50-10.50	Ground Water	04/04/2024	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<2	<5

Min	<3	<3	<3	<1	<2	<2	<2	<3	<2	<2	<0.5	<3	<2	<3	<2	<3	<2	<2	<5
Max	<3	<3	62	<1	<2	10	3	<3	<2	<2	88.5	16	<2	<3	<2	<3	<2	<2	61942
Criteria			171			76.6				10	53.3	55.8							1340
	SS			SS			EQS AA			SS	SS				SS				

Phase 2 Sampling event 03-04 April 2024				VOCs																
Sample	Depth	Sample Type	Date sampled	trans-1-3-Dichloropropene	1,1,2-Trichloroethane	Tetrachloroethene (PCE)	1,3-Dichloropropane	Dibromochloromethane	1,2-Dibromoethane	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	m/p-Xylene	o-Xylene	Xylene-Total	Styrene	Bromoform	Isopropylbenzene	1,1,2,2-Tetrachloroethane	Bromobenzene
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<3	<2	<2	<3	<4	<2
RBH608	3.00-5.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<3	<2	<2	<3	<4	<2
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	168	565	126	691	<2	<2	<3	<4	<2
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	<2	<2	21	<2	<2	<2	72	<2	8207 _{AC}	29765 _{AD}	6455 _{AC}	44427	<2	<2	107	<4	<2
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	33	359	69	428	<2	<2	<3	<4	<2
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	7	21	3	24	<2	<2	<3	<4	<2
RBH320	3.00-6.00	Ground Water	24/01/2024	<2	<2	12	<2	<2	<2	45	<2	6823 _{AC}	19978 _{AD}	3980 _{AC}	30781	<2	<2	106	<4	<2
RBH321	3.00-6.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	16	<2	1582 _{AC}	6228 _{AC}	1236 _{AC}	9046	<2	<2	18	<4	<2
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	221	211	36	247	<2	<2	5	<4	<2
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	142	195	33	228	<2	<2	5	<4	<2
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	227	131	14	145	<2	<2	4	<4	<2
RBH612	4.00-6.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH613	9.00-11.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH605	5.50-7.50	Ground Water	03/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	45	32	7	39	<2	<2	<3	<4	<2
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	2	3	1	4	<2	<2	<3	<4	<2
RBH602	7.50-10.50	Ground Water	04/04/2024	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2

Min	<2	<2	<3	<2	<2	<2	<2	<2	<1	<2	<1	<4	<2	<2	<3	<4	<2
Max	<2	<2	21	<2	<2	<2	72	<2	8207	29765	6455	44427	<2	<2	107	<4	<2
Criteria			129				300		5520	30	30	9320			-		
	SS						WHO			SS	EQS AA	EQS AA	SS				

Phase 2 Sampling event 03-04 April 2024																				
Sample	Depth	Sample Type	Date sampled	1,2,3-Trichloropropane	Propylbenzene	2-Chlorotoluene	1,3,5-Trimethylbenzene	4-Chlorotoluene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	4-Isopropyltoluene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	1,2,4-Trichlorobenzene	Hexhlorobutene	Naphthalene
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH608	3.00-5.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<3	<3	<3	3	<3	<3	11	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	<3	181	<3	407	<3	8	1409AC	9	8	<3	<3	<3	3	<2	<3	<3	13
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<3	<3	<3	<3	<3	<3	8	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH320	3.00-6.00	Ground Water	24/01/2024	<3	174	<3	296	<3	21	1273AC	15	13	<3	<3	<3	3	<2	<3	<3	33
RBH321	3.00-6.00	Ground Water	03/04/2024	<3	27	<3	82	<3	<3	328	<3	<3	<3	<3	<3	<3	<2	<3	<3	4
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<3	6	<3	13	<3	<3	27	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<3	4	<3	8	<3	<3	19	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<3	4	<3	14	<3	<3	32	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH612	4.00-6.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH613	9.00-11.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH605	5.50-7.50	Ground Water	03/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2
RBH602	7.50-10.50	Ground Water	04/04/2024	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2

Min	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	<2	
Max	<3	181	<3	407	<3	21	1409	15	13	<3	<3	<3	<3	<3	3	<2	<3	<3	33	
Criteria		-		-		-	-	-	-	-	20/200	20/200	-	20/200					2/130	
EQS AA/MAC											EQS AA/MAC					EQS AA/MAC				

Phase 2 Sampling event 03-04 April 2024					Phenols															
Sample	Depth	Sample Type	Date sampled	1,2,3-Trichlorobenzene	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	4-Chloro-3-methylphenol	4-Methylphenol	4-Nitrophenol	Pentachlorophenol	Phenol	2-Chloronaphthalene	2-Methylnaphthalene	Naphthalene	Acenaphthylene
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	0.3	<0.005
RBH608	3.00-5.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<3	<1	0.7	<0.5	<0.5	<1	<0.5	<1	<0.5	1	<10	<1	<1	<1	<1	0.4	<0.005
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	<3	<1	32.5	<0.5	<0.5	24	<0.5	<1	<0.5	71	<10	<1	5	<1	2	19.0AC	<0.005
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<3	<1	3.3	<0.5	<0.5	<1	<0.5	<1	<0.5	2	<10	<1	<1	<1	<1	0.3	<0.005
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH320	3.00-6.00	Ground Water	24/01/2024	<3	<1	112.7AB	<0.5	<0.5	52	<0.5	<1	<0.5	142AB	<10	<1	<1	<1	6	21.8AC	<0.005
RBH321	3.00-6.00	Ground Water	03/04/2024	<3	<1	16.6	<0.5	<0.5	10	<0.5	<1	<0.5	30	<10	<1	<1	<1	<1	4.9	<0.005
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	0.4	0.008
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<3	<1	0.9	<0.5	<0.5	3	<0.5	<1	<0.5	2	<10	<1	<1	<1	<1	1.8	0.025
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<3	<1	1.1	<0.5	<0.5	8	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	1.3	<0.005
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<3	<1	0.6	<0.5	<0.5	7	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	2.8	0.016
RBH612	4.00-6.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	0.01
RBH613	9.00-11.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	0.4	<0.005
RBH605	5.50-7.50	Ground Water	03/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<3	<1	0.7	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
RBH602	7.50-10.50	Ground Water	04/04/2024	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005

Min	<3	<1	<0.5	<0.5	<0.5	<1	<0.5	<1	<0.5	<1	<10	<1	<1	<1	<1	<0.1	<0.005
Max	<3	<1	112.7	<0.5	<0.5	52	<0.5	<1	<0.5	142	<10	<1	5	<1	6	21.8	0.025
Criteria			-	-	4.2/140	-				-			1430000mg/l		-	2/130	-
	C				EQS AA/MAC								SS			EQS AA/MAC	

Phase 2 Sampling event 03-04 April 2024				PAHs														Phthalates		
Sample	Depth	Sample Type	Date sampled	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(123cd)pyrene	Dibenzo(ah)anthrene	Benzo(ghi)perylene	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Di-n-butylphthalate
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	0.401	0.194	0.019	0.007	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH608	3.00-5.00	Ground Water	04/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	0.269	0.095	0.181	0.012	0.016	0.013	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	0.061	0.018	0.009	<0.005	0.005	0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	0.013	0.012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH320	3.00-6.00	Ground Water	24/01/2024	0.07	0.117	0.029	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH321	3.00-6.00	Ground Water	03/04/2024	0.043	0.016	0.023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	0.745	0.406	0.072	0.018	0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	1.904	1.145	0.359	0.034	0.009	0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	0.369	0.148	0.019	0.009	0.008	0.006	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	1.587	0.833	0.169	0.04	0.03	0.015	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH612	4.00-6.00	Ground Water	04/04/2024	0.182	0.113	<0.005	<0.005	0.019	0.021	0.016	0.011	0.011	<0.008	0.007	0.005	<0.005	0.006	<5	<1	<1.5
RBH613	9.00-11.00	Ground Water	04/04/2024	<0.005	<0.005	<0.005	<0.005	0.014	0.015	0.012	0.008	0.01	<0.008	0.007	0.005	<0.005	0.005	<5	<1	<1.5
RBH605	5.50-7.50	Ground Water	03/04/2024	<0.005	<0.005	0.011	<0.005	0.02	0.022	0.016	0.013	0.017	<0.008	0.012	0.009	<0.005	0.009	<5	<1	<1.5
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	0.008	0.007	0.035	0.009	0.07	0.07	0.039	0.04	0.047	0.018	0.039	0.026	0.006	0.024	<5	<1	<1.5
RBH602	7.50-10.50	Ground Water	04/04/2024	0.011	0.01	0.043	0.015	0.063	0.06	0.035	0.033	<0.008	<0.008	<0.005	0.026	<0.005	0.025	<5	<1	<1.5

Min	<0.005	<0.005	<0.005	<0.055	<0.005	<0.005	<0.005	<0.005	<0.008	<0.008	<0.005	<0.005	<0.005	<0.005	<5	<1	<1.5
Max	1.904	1.145	0.359	0.04	0.07	0.07	0.039	0.04	0.047	0.018	0.039	0.026	0.006	0.025	<5	<1	<1.5
Criteria	-	-	-	0.1	0.0063/0.12	-	-	-	0.017	0.017	0.00017/0.2	-	-	0.0082			

EQS AA/MAC

EQS MAC

EQS MAC

EQS MAC

Phase 2 Sampling event 03-04 April 2024							Other SVOCs														
Sample	Depth	Sample Type	Date sampled	Di-n-Octyl phthalate	Diethyl phthalate	Dimethyl phthalate	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Nitroaniline	2,4-Dinitrotoluene	2,6-Dinitrotoluene	3-Nitroaniline	4-Bromophenyl phenylether	4-Chloroaniline	4-Chlorophenyl phenylether	4-Nitroaniline	Azobenzene	Bis(2-chloroethoxy) methane	
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
RBH607	4.00-6.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH608	3.00-5.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	<1	<1	<1	3	<1	1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH320	3.00-6.00	Ground Water	24/01/2024	<1	<1	<1	3	<1	2	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH321	3.00-6.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH612	4.00-6.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH613	9.00-11.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH605	5.50-7.50	Ground Water	03/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	
RBH602	7.50-10.50	Ground Water	04/04/2024	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	

Min	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Max	<1	<1	<1	3	<1	2	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
Criteria				20/200		20/200	20/200											

EQS AA/MAC EQS AA/MAC EQS AA/MAC

Phase 2 Sampling event 03-04 April 2024														Glycols						
Sample	Depth	Sample Type	Date sampled	Bis(2-chloroethyl)ether	Carbazole	Dibenzofuran	Hexchlorobenzene	Hexchlorobutene	Hexchlorocyclopentene	Hexchloroethane	Isophorone	N-nitrosodi-n-propylamine	Nitrobenzene	Monoethylene glycol	Propylene glycol	Diethylene glycol	Triethylene glycol	Thiodiglycol	Resorcinol	Catechol
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
RBH607	4.00-6.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH608	3.00-5.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH320	3.00-6.00	Ground Water	24/01/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						0.01	<0.01
RBH321	3.00-6.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<1	0.6	1	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<1	<0.5	0.6	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH612	4.00-6.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH613	9.00-11.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH605	5.50-7.50	Ground Water	03/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01
RBH602	7.50-10.50	Ground Water	04/04/2024	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1						<0.01	<0.01

Min	<1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	0	0	0	0	0	<0.01	<0.01
Max	<1	0.6	1	<1	<1	<1	<1	<0.5	<0.5	<1	0	0	0	0	0	0.01	<0.01
Criteria											14,000 USEPA	14,000 USEPA	14,000 USEPA	14,000 USEPA	14,000 USEPA	-	-

Phase 2 Sampling event 03-04 April 2024				Speciated Phenols								
Sample	Depth	Sample Type	Date sampled	Phenol	m/p-cresol	o-cresol	Total cresols	Xylenols	1-naphthol	2,3,5-trimethyl phenol	2-isopropylphenol	Total Speciated Phenols HPLC
	m/bgl			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l
RBH607	4.00-6.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH608	3.00-5.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH603(S)	3.50-5.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH603(D)	7.00-9.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH601(S)	5.00-7.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH601(D)	9.00-11.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH609(S)	3.00-5.00	Ground Water	03/04/2024	0.02	0.11	0.05	0.16	0.06	<0.01	<0.01	<0.01	0.2
RBH609(D)	6.50-8.50	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH610(D)	6.50-8.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH320	3.00-6.00	Ground Water	24/01/2024	<0.01	0.23	0.18	0.41	0.09	<0.01	<0.01	<0.01	0.5
RBH321	3.00-6.00	Ground Water	03/04/2024	<0.01	0.05	0.03	0.08	<0.06	<0.01	<0.01	<0.01	<0.1
RBH615(S)	3.00-5.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH615(D)	9.00-12.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH614(S)	4.00-6.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH614(D)	9.00-12.00	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH612	4.00-6.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH613	9.00-11.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH605	5.50-7.50	Ground Water	03/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH604(S)	5.50-7.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH604(D)	9.50-11.50	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH606(S)	3.00-5.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH606(D)	7.00-9.00	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
RBH602	7.50-10.50	Ground Water	04/04/2024	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1

Min	<0.01	<0.02	<0.01	<0.03	<0.06	<0.01	<0.01	<0.01	<0.1
Max	0.02	0.23	0.18	0.41	0.09	<0.01	<0.01	<0.01	0.5
Criteria	1430000 mg/l	-	-	-	-	-	-	-	-

SS

Smith Grant LLP
Suite 16 - Bryn Estyn Business Centre
Bryn Estyn Road
Wrexham
United Kingdom
LL13 9TY



Attention : Meg Jones
Date : 14th February, 2024
Your reference : R2174
Our reference : Test Report 24/1306 Batch 1
Location : Tetrosyl - GW Monitoring
Date samples received : 25th January, 2024
Status : Final Report
Issue : 202402141449

Twenty four samples were received for analysis on 25th January, 2024 of which twenty three 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 103.098 kg of CO2

Scope 1&2&3 emissions - 243.646 kg of CO2

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: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

Report : Liquid

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

EMT Sample No.	1-11	12-22	23-33	34-44	45-55	56-66	67-77	78-88	89-99	100-110	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH607	RBH608	RBH603(S)	RBH603(D)	RBH601(S)	RBH601(D)	RBH609(S)	RBH609(D)	RBH610(D)	RBH320			
Depth	4.00-6.00	3.00-5.00	3.50-5.00	7.00-9.00	5.00-7.00	9.00-11.00	3.00-5.00	6.50-8.50	6.50-8.00	3.00-6.00			
COC No / misc													
Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G			
Sample Date	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	48	<10	<10	<10	<10	<10	512 ^{AB}	49	<10	<100 ^{AB}	<10	ug/l	TM36/PM12
>C6-C8 #	29	<10	17	<10	<10	<10	17132 ^{AB}	608	19	13584 ^{AB}	<10	ug/l	TM36/PM12
>C8-C10 #	21	<10	<10	<10	<10	<10	9407 ^{AB}	233	<10	6322 ^{AB}	<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	98	<10	17	<10	<10	<10	27051	890	19	19906	<10	ug/l	TM5/PM16/PM30
Aromatics													
>C5-EC7 #	<10	<10	<10	<10	<10	<10	<100 ^{AB}	<10	<10	<100 ^{AB}	<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	<10	<10	<10	<10	53437 ^{AB}	1962	<10	45151 ^{AB}	<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	<10	<10	<10	<10	46625 ^{AB}	1195	<10	29068 ^{AB}	<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5	<5	<5	<5	542	41	<5	676	<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	50	<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	<10	<10	<10	<10	<10	<10	100604	3198	<10	74945	<10	ug/l	TM5/PM16/PM30
Total aliphatics and aromatics(C5-35) #	98	<10	17	<10	<10	<10	127655	4088	19	94851	<10	ug/l	TM5/PM16/PM30
Phenols													
Resorcinol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	mg/l	TM26/PM0
Catechol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
m/p-cresol	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	<0.02	<0.02	0.15	<0.02	mg/l	TM26/PM0
o-cresol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.02	<0.01	0.10	<0.01	mg/l	TM26/PM0
Total cresols #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	0.25	<0.03	mg/l	TM26/PM0
Xylenols #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.08	<0.06	<0.06	0.07	<0.06	mg/l	TM26/PM0
1-naphthol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2-isopropylphenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total Speciated Phenols HPLC	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.3	<0.1	mg/l	TM26/PM0
Inorganic													
Sulphate as SO ₄ #	40.2	89.2	46.1	41.8	38.4	38.0	63.4	46.6	31.5	28.5	<0.5	mg/l	TM38/PM0
Chloride #	48.5	47.1	49.6	58.0	76.2	77.6	30.2	51.1	34.0	40.3	<0.3	mg/l	TM38/PM0
Nitrate as NO ₃ #	<0.2	1.8	2.2	11.2	17.1	17.6	<0.2	4.7	<0.2	<0.2	<0.2	mg/l	TM38/PM0
Nitrite as NO ₂ #	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.68	<0.02	<0.02	<0.02	mg/l	TM38/PM0
Organic													
Monoethylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Propylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Diethylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Triethylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Thiodiglycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

Report : Liquid

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

EMT Sample No.	111-121	122-132	133-143	144-154	155-165	166-176	177-187	188-198	199-209	210-220	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH321	RBH615(S)	RBH615(D)	RBH614(S)	RBH614(D)	RBH612	RBH613	RBH605	RBH604(S)	RBH604(D)			
Depth	3.00-6.00	3.00-5.00	9.00-12.00	4.00-6.00	9.00-12.00	4.00-6.00	9.00-11.00	5.50-7.50	5.50-7.00	9.50-11.50			
COC No / misc													
Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G			
Sample Date	24/01/2024	24/01/2024	24/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	199 ^{AB}	14	21	28	92	75	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>C6-C8 #	12576 ^{AB}	20	308	71	464	40	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>C8-C10 #	6801 ^{AB}	17	67	27	245	46	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>C10-C12 #	54	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	19630	51	396	126	801	161	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Aromatics													
>C5-EC7 #	<100 ^{AB}	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>EC7-EC8 #	40900 ^{AB}	<10	19	<10	151	<10	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>EC8-EC10 #	33107 ^{AB}	<10	33	36	730	51	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>EC10-EC12 #	453	<5	<5	<5	67	<5	<5	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	74460	<10	52	36	958	51	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aliphatics and aromatics(C5-35) #	94090	51	448	162	1759	212	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Resorcinol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Catechol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
m/p-cresol	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/l	TM26/PM0
o-cresol	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total cresols #	0.17	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/l	TM26/PM0
Xylenols #	0.08	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/l	TM26/PM0
1-naphthol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2-isopropylphenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total Speciated Phenols HPLC	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/l	TM26/PM0
Sulphate as SO4 #	52.9	168.0	43.8	58.6	30.9	35.4	35.9	45.7	39.7	39.5	<0.5	mg/l	TM38/PM0
Chloride #	37.0	21.2	40.3	47.4	38.4	46.6	62.2	64.6	63.8	64.6	<0.3	mg/l	TM38/PM0
Nitrate as NO3 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.6	1.7	11.8	12.7	<0.2	mg/l	TM38/PM0
Nitrite as NO2 #	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/l	TM38/PM0
Monoethylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Propylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Diethylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Triethylene glycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0
Thiodiglycol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM179/PM0

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

Report : Liquid

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

EMT Sample No.	221-231	232-242	243-253									
Sample ID	RBH606(S)	RBH606(D)	RBH602									
Depth	3.00-5.00	7.00-9.00	7.50-10.50									
COC No / misc												
Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G									
Sample Date	25/01/2024	25/01/2024	25/01/2024									
Sample Type	Ground Water	Ground Water	Ground Water									
Batch Number	1	1	1									
Date of Receipt	25/01/2024	25/01/2024	25/01/2024									
										LOD/LOR	Units	Method No.
Dissolved Manganese #	2605	1628	2904							<2	ug/l	TM30/PM14
Dissolved Potassium #	1.9	1.8	6.3							<0.1	mg/l	TM30/PM14
Dissolved Sodium #	22.0	20.0	17.6							<0.1	mg/l	TM30/PM14
Total Iron	8554	36351 ^{AA}	57954 ^{AB}							<20	ug/l	TM30/PM14
Total Manganese	2644	1630	2828							<2	ug/l	TM30/PM14
Total Sulphur as S	18920	16614	4146							<10	ug/l	TM30/PM14
PAH MS												
Naphthalene #	<0.1	<0.1	<0.1							<0.1	ug/l	TM4/PM30
Acenaphthylene #	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Acenaphthene #	<0.005	0.009	0.017							<0.005	ug/l	TM4/PM30
Fluorene #	<0.005	0.009	0.018							<0.005	ug/l	TM4/PM30
Phenanthrene #	<0.005	0.021	0.019							<0.005	ug/l	TM4/PM30
Anthracene #	<0.005	0.006	0.005							<0.005	ug/l	TM4/PM30
Fluoranthene #	<0.005	0.021	<0.005							<0.005	ug/l	TM4/PM30
Pyrene #	<0.005	0.023	<0.005							<0.005	ug/l	TM4/PM30
Benzo(a)anthracene #	<0.005	0.007	<0.005							<0.005	ug/l	TM4/PM30
Chrysene #	<0.005	0.014	<0.005							<0.005	ug/l	TM4/PM30
Benzo(bk)fluoranthene #	<0.008	0.018	<0.008							<0.008	ug/l	TM4/PM30
Benzo(a)pyrene #	<0.005	0.015	<0.005							<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene #	<0.005	0.010	<0.005							<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene #	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene #	<0.005	0.010	<0.005							<0.005	ug/l	TM4/PM30
PAH 16 Total #	<0.173	<0.173	<0.173							<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.008	0.013	<0.008							<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.008	<0.008	<0.008							<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	94	87	88							<0	%	TM4/PM30
VOC TICs	ND	ND	ND								None	TM15/PM10
Methyl Tertiary Butyl Ether #	2.3	0.6	0.6							<0.1	ug/l	TM15/PM10
Benzene #	0.6	<0.5	<0.5							<0.5	ug/l	TM15/PM10
Toluene #	<5	<5	<5							<5	ug/l	TM15/PM10
Ethylbenzene #	2	<1	<1							<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2							<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1							<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	104	104	106							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	99	99	102							<0	%	TM15/PM10
SVOC TICs	ND	ND	ND								None	TM16/PM30

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

Report : Liquid

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

EMT Sample No.	221-231	232-242	243-253								Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH606(S)	RBH606(D)	RBH602										
Depth	3.00-5.00	7.00-9.00	7.50-10.50										
COC No / misc													
Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G										
Sample Date	25/01/2024	25/01/2024	25/01/2024										
Sample Type	Ground Water	Ground Water	Ground Water										
Batch Number	1	1	1										
Date of Receipt	25/01/2024	25/01/2024	25/01/2024										
TPH CWG													
Aliphatics													
>C5-C6 #	<10	<10	<10								<10	ug/l	TM36/PM12
>C6-C8 #	34	<10	<10								<10	ug/l	TM36/PM12
>C8-C10 #	<10	<10	<10								<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5								<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	34	<10	<10								<10	ug/l	TM5/PM16/PM12/PM16/PM30
Aromatics													
>C5-EC7 #	<10	<10	<10								<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	<10								<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	<10								<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5								<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) #	34	<10	<10								<10	ug/l	TM5/PM16/PM12/PM16/PM30
Resorcinol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Catechol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Phenol #	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
m/p-cresol	<0.02	<0.02	<0.02								<0.02	mg/l	TM26/PM0
o-cresol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Total cresols #	<0.03	<0.03	<0.03								<0.03	mg/l	TM26/PM0
Xylenols #	<0.06	<0.06	<0.06								<0.06	mg/l	TM26/PM0
1-naphthol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
2-isopropylphenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Total Speciated Phenols HPLC	<0.1	<0.1	<0.1								<0.1	mg/l	TM26/PM0
Sulphate as SO4 #	59.3	54.0	12.2								<0.5	mg/l	TM38/PM0
Chloride #	58.4	65.6	18.9								<0.3	mg/l	TM38/PM0
Nitrate as NO3 #	<0.2	1.0	<0.2								<0.2	mg/l	TM38/PM0
Nitrite as NO2 #	0.09	<0.02	<0.02								<0.02	mg/l	TM38/PM0
Monoethylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Propylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Diethylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Triethylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Thiodiglycol	<10	<10	<10								<10	ug/l	TM179/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

SVOC Report : Liquid

EMT Sample No.	1-11	12-22	23-33	34-44	45-55	56-66	67-77	78-88	89-99	100-110	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH607	RBH608	RBH603(S)	RBH603(D)	RBH601(S)	RBH601(D)	RBH609(S)	RBH609(D)	RBH610(D)	RBH320			
Depth	4.00-6.00	3.00-5.00	3.50-5.00	7.00-9.00	5.00-7.00	9.00-11.00	3.00-5.00	6.50-8.50	6.50-8.00	3.00-6.00			
COC No / misc Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G			
Sample Date	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
2-Methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	29.4 _{AC}	10.9	<0.5	67.6	<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1	27 _{AC}	1	<1	36	<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
4-Methylphenol	<1	<1	<1	<1	<1	<1	54 _{AC}	5	<1	119 _{AA}	<1	ug/l	TM16/PM30
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<200 _{AC}	<10	<10	<10	<10	ug/l	TM16/PM30
Pentachlorophenol	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Phenol	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
2-Methylnaphthalene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	5	<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5	<5	<5	<5	<5	<5	<100 _{AC}	<5	<5	<5	<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Di-n-butyl phthalate #	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<30.0 _{AC}	<1.5	<1.5	<1.5	<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Diethyl phthalate #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Dimethyl phthalate	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	3	<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
1,3-Dichlorobenzene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	1	<1	ug/l	TM16/PM30
1,4-Dichlorobenzene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
2-Nitroaniline	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
2,4-Dinitrotoluene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
3-Nitroaniline	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
4-Bromophenylphenylether #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
4-Chloroaniline	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
4-Chlorophenylphenylether #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
Azobenzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Carbazole #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
Dibenzofuran #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
Hexachlorobenzene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Hexachlorobutadiene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Hexachloroethane #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Isophorone #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0 _{AC}	<0.5	<0.5	<0.5	<0.5	ug/l	TM16/PM30
Nitrobenzene #	<1	<1	<1	<1	<1	<1	<20 _{AC}	<1	<1	<1	<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	107	102	89	108	111	112	109 _{AC}	94	115	120	<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	115	106	92	110	113	116	89 _{AC}	106	127	115	<0	%	TM16/PM30

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

QF-PM 3.1.3 v11 All solid results are expressed on a dry weight basis unless stated otherwise. 13 of 30

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

VOC Report : Liquid

EMT Sample No.	1-11	12-22	23-33	34-44	45-55	56-66	67-77	78-88	89-99	100-110	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH607	RBH608	RBH603(S)	RBH603(D)	RBH601(S)	RBH601(D)	RBH609(S)	RBH609(D)	RBH610(D)	RBH320			
Depth	4.00-6.00	3.00-5.00	3.50-5.00	7.00-9.00	5.00-7.00	9.00-11.00	3.00-5.00	6.50-8.50	6.50-8.00	3.00-6.00			
COC No / misc Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G			
Sample Date	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024	24/01/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024			
VOC MS													
Dichlorodifluoromethane	539	248	162	54	<2	<2	5	34	78	79	<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	3.1	2.0	3.8	0.6	<0.1	<0.1	14.6	2.4	0.7	11.2	<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Vinyl Chloride #	1.0	0.1	3.0	<0.1	<0.1	<0.1	4.0	0.5	4.5	3.3	<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	5	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	9	<3	<3	<3	55	5	29	53	<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	8	<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Benzene #	3.8	<0.5	1.8	<0.5	<0.5	<0.5	42.3	3.4	1.2	86.6	<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	12	<3	<3	<3	5	5	11	23	<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5	<5	45156 ^{AE}	2216 ^{AB}	<5	48798 ^{AD}	<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3	17	<3	<3	10	<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2	<2	<2	<2	66	3	<2	39	<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Ethylbenzene #	1	<1	<1	<1	<1	<1	6011 ^{AB}	197	<1	6010 ^{AD}	<1	ug/l	TM15/PM10
m/p-Xylene #	2	<2	<2	<2	<2	<2	25450 ^{AC}	823	<2	18873 ^{AD}	<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	1	<1	<1	<1	4755 ^{AB}	208	1	3497 ^{AD}	<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	79	<3	<3	78	<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3	<3	<3	<3	130	<3	<3	144	<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	435	8	<3	308	<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3	<3	<3	<3	5	<3	<3	19	<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	1336 ^{AC}	25	<3	1047 ^{AD}	<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3	<3	<3	<3	11	<3	<3	15	<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3	<3	<3	<3	10	<3	<3	12	<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3	<3	10	<3	<3	9	<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2	<2	<2	<2	31	<2	<2	7	<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	101	110	110	109	109	110	104	110	109	107	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	91	94	94	95	94	93	65	97	93	84	<0	%	TM15/PM10

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

VOC Report : Liquid

EMT Sample No.	111-121	122-132	133-143	144-154	155-165	166-176	177-187	188-198	199-209	210-220	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH321	RBH615(S)	RBH615(D)	RBH614(S)	RBH614(D)	RBH612	RBH613	RBH605	RBH604(S)	RBH604(D)			
Depth	3.00-6.00	3.00-5.00	9.00-12.00	4.00-6.00	9.00-12.00	4.00-6.00	9.00-11.00	5.50-7.50	5.50-7.00	9.50-11.50			
COC No / misc Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G			
Sample Date	24/01/2024	24/01/2024	24/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024	25/01/2024			
VOC MS													
Dichlorodifluoromethane	22	41	334	255	828	863	46	110	33	24	<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	10.3	5.3	0.7	5.2	1.8	3.6	0.2	1.3	0.4	0.3	<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Vinyl Chloride #	3.8	1.5	0.9	0.4	0.8	0.9	<0.1	0.3	<0.1	<0.1	<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	51	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Benzene #	35.4	3.3	2.0	4.0	11.5	7.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	9	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Toluene #	42239 ^{AD}	<5	22	<5	175	<5	<5	<5	<5	<5	<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	7	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chlorobenzene #	55	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Ethylbenzene #	5660 ^{AD}	<1	15	12	306	11	<1	<1	<1	<1	<1	ug/l	TM15/PM10
m/p-Xylene #	20745 ^{AD}	<2	12	15	366	7	<2	<2	<2	<2	<2	ug/l	TM15/PM10
o-Xylene #	4456 ^{AD}	<1	2	3	76	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Isopropylbenzene #	69	<3	<3	<3	5	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Propylbenzene #	123	<3	<3	<3	7	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	342	<3	<3	<3	10	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
tert-Butylbenzene #	6	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	>>1251	<3	<3	<3	28	5	<3	<3	<3	<3	<3	ug/l	TM15/PM10
sec-Butylbenzene #	8	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
4-Isopropyltoluene #	6	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
n-Butylbenzene #	5	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Naphthalene	5	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	108	107	104	105	111	109	111	104	103	104	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	85	92	102	99	96	94	94	100	96	98	<0	%	TM15/PM10

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl - GW Monitoring
Contact: Meg Jones
EMT Job No: 24/1306

VOC Report : Liquid

EMT Sample No.	221-231	232-242	243-253									
Sample ID	RBH606(S)	RBH606(D)	RBH602									
Depth	3.00-5.00	7.00-9.00	7.50-10.50									
COC No / misc												
Containers	V HN HCL Z P BOD G	V HN HCL Z P BOD G	V HN HCL Z P BOD G									
Sample Date	25/01/2024	25/01/2024	25/01/2024									
Sample Type	Ground Water	Ground Water	Ground Water									
Batch Number	1	1	1									
Date of Receipt	25/01/2024	25/01/2024	25/01/2024									
	LOD/LOR	Units	Method No.									
VOC MS												
Dichlorodifluoromethane	29	16	5							<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	2.3	0.6	0.6							<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3							<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1	<0.1							<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1							<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3							<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3							<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3							<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3							<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3							<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3							<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1							<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2							<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3							<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2							<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Benzene #	0.6	<0.5	<0.5							<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2							<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3							<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2							<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2							<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5							<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2							<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3							<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2							<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2							<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2							<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Ethylbenzene #	2	<1	<1							<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2							<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1							<1	ug/l	TM15/PM10
Styrene	<2	<2	<2							<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2							<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4							<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2							<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3							<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3							<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2							<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3							<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3							<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2							<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3							<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	104	104	106							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	99	99	102							<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Job number:	24/1306
Sample number:	67
Sample identity:	RBH609(S)
Sample depth:	3.00-5.00
Sample Type:	Ground Water
Units:	ug/l

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/1306
Sample number:	100
Sample identity:	RBH320
Sample depth:	3.00-6.00
Sample Type:	Ground Water
Units:	ug/l

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/1306	Method:	VOC
Sample number:	111	Matrix:	Liquid
Sample identity:	RBH321		
Sample depth:	3.00-6.00		
Sample Type:	Ground Water		
Units:	ug/l		

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number: 24/1306
Sample number: 133
Sample identity: RBH615(D)
Sample depth: 9.00-12.00
Sample Type: Ground Water
Units: ug/l

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/1306	Method:	SVOC
Sample number:	77	Matrix:	Liquid
Sample identity:	RBH609(S)		
Sample depth:	3.00-5.00		
Sample Type:	Ground Water		
Units:	ug/l		

Method: SVOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/1306	Method:	SVOC
Sample number:	110	Matrix:	Liquid
Sample identity:	RBH320		
Sample depth:	3.00-6.00		
Sample Type:	Ground Water		
Units:	ug/l		

Method: SVOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/1306	Method:	SVOC
Sample number:	121	Matrix:	Liquid
Sample identity:	RBH321		
Sample depth:	3.00-6.00		
Sample Type:	Ground Water		
Units:	ug/l		

Method: SVOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology	Notification of Deviating Samples
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Client Name: Smith Grant LLP **Matrix : Liquid**

Reference: R2174

Location: Tetrosyl - GW Monitoring

Contact: Meg Jones

[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.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/1306

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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation 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 of which the laboratory are not aware.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. 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	x5 Dilution
AB	x10 Dilution
AC	x20 Dilution
AD	x50 Dilution
AE	x200 Dilution

EMT Job No: 24/1306

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
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	Yes			
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM25	Determinaion of Dissolved Methane, Ethane and Ethene by Headspace GC-FID	PM0	No preparation is required.				
TM25	Determinaion of Dissolved Methane, Ethane and Ethene by Headspace GC-FID	PM0	No preparation is required.	Yes			

EMT Job No: 24/1306

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
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.	Yes			
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM30/TM213	Calculation of Fe (III) based on Iron and Fe(II)	PM0	No preparation is required.				
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			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			

EMT Job No: 24/1306

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
TM62	Determination of Manganese (II) by reaction with Formaldoxime in ammoniacal solution to form a manganese complex which is analysed spectrophotometrically.	PM0	No preparation is required.				
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM107	Determination of Sulphide/Thiocyanate by Skalar Continuous Flow Analyser	PM0	No preparation is required.				
TM179	Determination of Glycols using LCMS	PM0	No preparation is required.				
TM213	Fe(II) and Mn(II) by IC and Spectro	PM31	Prep of Waters for Inorganics				

Smith Grant LLP
Suite 16 - Bryn Estyn Business Centre
Bryn Estyn Road
Wrexham
United Kingdom
LL13 9TY



Attention : Louise Stock
Date : 19th April, 2024
Your reference : R2174
Our reference : Test Report 24/5862 Batch 1
Location : Tetrosyl
Date samples received : 6th April, 2024
Status : Final Report
Issue : 202404191621

Twenty five samples were received for analysis on 6th April, 2024 of which twenty three 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 101.143 kg of CO2

Scope 1&2&3 emissions - 239.027 kg of CO2

Authorised By:



Darcey Bower MESci

Project Co-ordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

Report : Liquid

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

EMT Sample No.	1-13	14-26	27-39	40-51	52-64	65-75	76-87,333	88-100	101-113	114-126	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH601(S)	RBH601(D)	RBH602	RBH603(S)	RBH603(D)	RBH604(S)	RBH604(D)	RBH605	RBH606(S)	RBH606(D)			
Depth	5.00-7.00	9.00-12.00	7.50-10.50	3.00-5.00	7.00-9.00	5.50-7.50	9.50-11.50	5.50-7.50	7.00-9.00	9.50-11.50			
COC No / misc													
Containers	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G			
Sample Date	03/04/2024	03/04/2024	04/04/2024	04/04/2024	04/04/2024	04/04/2024	04/04/2024	03/04/2024	04/04/2024	04/04/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	<10	<10	<10	15	<10	<10	<10	<10	31	<10	<10	ug/l	TM36/PM12
>C6-C8 #	<10	<10	<10	505	<10	<10	<10	<10	332	99	<10	ug/l	TM36/PM12
>C8-C10 #	<10	<10	<10	167	<10	<10	<10	<10	20	<10	<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C35-C44	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-44	<10	<10	<10	687	<10	<10	<10	<10	383	99	<10	ug/l	TM5/PM16/PM30
Aromatics													
>C5-EC7 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	<10	1769	<10	<10	<10	<10	25	<10	<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	<10	877	<10	<10	<10	<10	83	<10	<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC35-EC44	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aromatics C5-44	<10	<10	<10	2646	<10	<10	<10	<10	108	<10	<10	ug/l	TM5/PM16/PM30
Total aliphatics and aromatics(C5-44)	<10	<10	<10	3333	<10	<10	<10	<10	491	99	<10	ug/l	TM5/PM16/PM30
Resorcinol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Catechol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
m/p-cresol	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/l	TM26/PM0
o-cresol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total cresols #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/l	TM26/PM0
Xylenols #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/l	TM26/PM0
1-naphthol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2-isopropylphenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total Speciated Phenols HPLC	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/l	TM26/PM0
Sulphate as SO ₄ #	39.3	39.6	5.2	44.4	43.2	41.0	40.8	47.9	27.7	44.3	<0.5	mg/l	TM38/PM0
Chloride #	79.0	77.6	22.3	52.7	63.2	67.6	68.2	64.5	51.0	62.8	<0.3	mg/l	TM38/PM0
Nitrate as NO ₃ #	15.3	15.4	<0.2	8.2	10.7	11.5	12.0	1.7	<0.2	<0.2	<0.2	mg/l	TM38/PM0
Nitrite as NO ₂ #	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/l	TM38/PM0
Dissolved Methane #	<1	<1	>>23968	312	<1	<1	<1	>>1702	>>16562	>>4865	<1	ug/l	TM25/PM0
Dissolved Ethene #	<1	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	ug/l	TM25/PM0
Dissolved Ethane #	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	ug/l	TM25/PM0
Dissolved Carbon Dioxide	96644	93468	>>162445	>>205349	>>131449	>>133431	>>123796	>>171524	>>243161	>>150464	<1	ug/l	TM25/PM0

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

Report : Liquid

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

EMT Sample No.	127-139	140-151	152-170	171-189	190-208	209-226	227-245	246-258	259-271	272-284	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH607	RBH608	RBH609(S)	RBH609(D)	RBH610(D)	RBH320	RBH321	RBH612	RBH613	RBH614(S)			
Depth	7.00-9.00	3.00-5.00	3.00-5.00	6.50-8.50	6.50-8.50	3.00-6.00	3.00-6.00	4.00-6.00	9.00-11.00	4.00-6.00			
COC No / misc													
Containers	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G	V H HN HCL Z P BOD G			
Sample Date	04/04/2024	04/04/2024	03/04/2024	03/04/2024	03/04/2024	03/04/2024	03/04/2024	04/04/2024	04/04/2024	03/04/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	34	14	657 ^{AC}	<10	<10	65	81	55	<10	34	<10	ug/l	TM36/PM12
>C6-C8 #	17	<10	1736 ^{3AC}	178	37	11828	3076	<10	<10	57	<10	ug/l	TM36/PM12
>C8-C10 #	15	<10	8352 ^{AC}	94	16	5835	1777	<10	<10	124	<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	25	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>C35-C44	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-44	66	14	26397	272	53	17728	4934	55	<10	215	<10	ug/l	TM5/PM16/PM30
Aromatics													
>C5-EC7 #	<10	<10	<100 ^{AC}	<10	<10	74	12	<10	<10	<10	<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	56719 ^{AC}	528	60	40248	10083	<10	<10	42	<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	41555 ^{AC}	431	43	27130	8519	<10	<10	369	<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	618	<5	<5	657	227	<5	<5	<5	<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
>EC35-EC44	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l	TM5/PM16/PM30
Total aromatics C5-44	<10	<10	98892	959	103	68109	18841	<10	<10	411	<10	ug/l	TM5/PM16/PM30
Total aliphatics and aromatics(C5-44)	66	14	125289	1231	156	85837	23775	55	<10	626	<10	ug/l	TM5/PM16/PM30
Resorcinol	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Catechol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol #	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
m/p-cresol	<0.02	<0.02	0.11	<0.02	<0.02	0.23	0.05	<0.02	<0.02	<0.02	<0.02	mg/l	TM26/PM0
o-cresol	<0.01	<0.01	0.05	<0.01	<0.01	0.18	0.03	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total cresols #	<0.03	<0.03	0.16	<0.03	<0.03	0.41	0.08	<0.03	<0.03	<0.03	<0.03	mg/l	TM26/PM0
Xylenols #	<0.06	<0.06	0.06	<0.06	<0.06	0.09	<0.06	<0.06	<0.06	<0.06	<0.06	mg/l	TM26/PM0
1-naphthol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
2-isopropylphenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Total Speciated Phenols HPLC	<0.1	<0.1	0.2	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	mg/l	TM26/PM0
Sulphate as SO ₄ #	38.5	80.1	3.5	40.2	33.2	5.3	18.0	28.2	32.3	38.6	<0.5	mg/l	TM38/PM0
Chloride #	45.5	49.6	36.2	52.0	35.8	47.8	69.5	47.9	66.5	38.1	<0.3	mg/l	TM38/PM0
Nitrate as NO ₃ #	<0.2	1.7	<0.2	3.1	<0.2	<0.2	<0.2	<0.2	2.0	<0.2	<0.2	mg/l	TM38/PM0
Nitrite as NO ₂ #	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	mg/l	TM38/PM0
Dissolved Methane #	>>8705	>>3205	>>2517	44	271	>>1912	>>1468	>>9476	>>3018	>>8729	<1	ug/l	TM25/PM0
Dissolved Ethene #	3	<1	6	<1	3	5	7	<1	<1	4	<1	ug/l	TM25/PM0
Dissolved Ethane #	10	4	2	<1	4	12	6	10	<1	12	<1	ug/l	TM25/PM0
Dissolved Carbon Dioxide	>>160565	>>152289	>>138564	55071	>>179107	>>216590	>>265737	>>119884	>>148146	>>180662	<1	ug/l	TM25/PM0

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

Report : Liquid

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EMT Sample No.	285-297	298-315	316-328								Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH614(D)	RBH615(S)	RBH615(D)										
Depth	9.00-12.00	3.00-5.00	9.00-11.00										
COC No / misc													
Containers	V H H N HCL Z P BOD G	V H H N HCL Z P BOD G	V H H N HCL Z P BOD G										
Sample Date	03/04/2024	03/04/2024	03/04/2024										
Sample Type	Ground Water	Ground Water	Ground Water										
Batch Number	1	1	1										
Date of Receipt	06/04/2024	06/04/2024	06/04/2024										
TPH CWG													
Aliphatics													
>C5-C6 #	62	19	65								<10	ug/l	TM36/PM12
>C6-C8 #	69	41	692								<10	ug/l	TM36/PM12
>C8-C10 #	131	25	248								<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5								<5	ug/l	TM5/PM16/PM3
>C12-C16 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
>C16-C21 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
>C21-C35 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
>C35-C44	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
Total aliphatics C5-44	262	85	1005								<10	ug/l	TM5/PM16/PM3
Aromatics													
>C5-EC7 #	<10	<10	10								<10	ug/l	TM36/PM12
>EC7-EC8 #	19	<10	107								<10	ug/l	TM36/PM12
>EC8-EC10 #	324	<10	428								<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5								<5	ug/l	TM5/PM16/PM3
>EC12-EC16 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
>EC16-EC21 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
>EC21-EC35 #	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
>EC35-EC44	<10	<10	<10								<10	ug/l	TM5/PM16/PM3
Total aromatics C5-44	343	<10	545								<10	ug/l	TM5/PM16/PM3
Total aliphatics and aromatics(C5-44)	605	85	1550								<10	ug/l	TM5/PM16/PM3
Resorcinol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Catechol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Phenol #	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
m/p-cresol	<0.02	<0.02	<0.02								<0.02	mg/l	TM26/PM0
o-cresol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Total cresols #	<0.03	<0.03	<0.03								<0.03	mg/l	TM26/PM0
Xylenols #	<0.06	<0.06	<0.06								<0.06	mg/l	TM26/PM0
1-naphthol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
2-isopropylphenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Total Speciated Phenols HPLC	<0.1	<0.1	<0.1								<0.1	mg/l	TM26/PM0
Sulphate as SO4 #	10.0	94.2	16.6								<0.5	mg/l	TM38/PM0
Chloride #	38.2	24.9	39.6								<0.3	mg/l	TM38/PM0
Nitrate as NO3 #	<0.2	<0.2	<0.2								<0.2	mg/l	TM38/PM0
Nitrite as NO2 #	<0.02	<0.02	<0.02								<0.02	mg/l	TM38/PM0
Dissolved Methane #	>>10998	>>3609	>>6314								<1	ug/l	TM25/PM0
Dissolved Ethene #	<1	5	<1								<1	ug/l	TM25/PM0
Dissolved Ethane #	10	12	<1								<1	ug/l	TM25/PM0
Dissolved Carbon Dioxide	>>113931	>>262670	>>124329								<1	ug/l	TM25/PM0

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN₃

[illegible]

Element Materials Technology

Client Name: Smith Grant LLP
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[illegible]

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[illegible]

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[illegible]

Element Materials Technology

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[illegible]

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

Report : Liquid (Duplicate results)

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN₃

[illegible]

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

Report : Liquid (Duplicate results)

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN₃

[illegible]

Please see attached notes for all abbreviations and acronyms

Please see attached notes for all abbreviations and acronyms

Client Name:	Smith Grant LLP	SVOC Report :	Liquid
Reference:	R2174		
Location:	Tetrosyl		
Contact:	Louise Stock		
EMT Job No:	24/5862		

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

VOC Report : Liquid

EMT Sample No.	1-13	14-26	27-39	40-51	52-64	65-75	76-87,333	88-100	101-113	114-126	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH601(S)	RBH601(D)	RBH602	RBH603(S)	RBH603(D)	RBH604(S)	RBH604(D)	RBH605	RBH606(S)	RBH606(D)			
Depth	5.00-7.00	9.00-12.00	7.50-10.50	3.00-5.00	7.00-9.00	5.50-7.50	9.50-11.50	5.50-7.50	7.00-9.00	9.50-11.50			
COC No / misc Containers	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G			
Sample Date	03/04/2024	03/04/2024	04/04/2024	04/04/2024	04/04/2024	04/04/2024	04/04/2024	03/04/2024	04/04/2024	04/04/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2	<2	10	159	56	32	23	134	278	72	<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	<0.1	<0.1	0.6	2.1	0.1	0.3	<0.1	0.9	18.8	5.1	<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1	<0.1	1.6	<0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	6	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	3.4	<0.5	<0.5	<0.5	<0.5	5.9	<0.5	<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	7	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5	1923 ^{AB}	<5	<5	<5	<5	28	<5	<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	168	<1	<1	<1	<1	45	2	<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	565	<2	<2	<2	<2	32	3	<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1	126	<1	<1	<1	<1	7	1	<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3	11	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	58	85	84	87	86	92	86	97	94	94	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	83	89	83	86	83	95	83	101	92	99	<0	%	TM15/PM10

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

VOC Report : Liquid

EMT Sample No.	127-139	140-151	152-170	171-189	190-208	209-226	227-245	246-258	259-271	272-284	Please see attached notes for all abbreviations and acronyms		
Sample ID	RBH607	RBH608	RBH609(S)	RBH609(D)	RBH610(D)	RBH320	RBH321	RBH612	RBH613	RBH614(S)			
Depth	7.00-9.00	3.00-5.00	3.00-5.00	6.50-8.50	6.50-8.50	3.00-6.00	3.00-6.00	4.00-6.00	9.00-11.00	4.00-6.00			
COC No / misc Containers	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G	V H N H C L Z P B O O G			
Sample Date	04/04/2024	04/04/2024	03/04/2024	03/04/2024	03/04/2024	03/04/2024	03/04/2024	04/04/2024	04/04/2024	03/04/2024			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024	06/04/2024			
VOC MS													
Dichlorodifluoromethane	591	451	5	23	99	87	74	871	61	217	<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	2.6	2.2	23.0	1.5	0.6	13.2	8.0	3.1	0.3	5.8	<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Vinyl Chloride #	1.0	0.3	4.4	0.5	3.6	3.9	5.2	0.7	<0.1	0.7	<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	5	<3	4	<3	<3	<3	<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	4	<3	<3	<3	<3	<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	62	<3	23	58	28	<3	<3	<3	<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	10	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	3	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Benzene #	1.9	<0.5	50.2	1.2	1.1	88.5	12.8	<0.5	<0.5	8.3	<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	4	<3	9	16	6	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Toluene #	<5	<5	61942 ^{AD}	596	59	47763 ^{AD}	10339 ^{AD}	<5	<5	44	<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	21	<3	<3	12	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	72	<2	<2	45	16	<2	<2	<2	<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	8207 ^{AC}	33	7	6823 ^{AC}	1582 ^{AC}	<1	<1	142	<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	29765 ^{AD}	359	21	19978 ^{AD}	6228 ^{AC}	<2	<2	195	<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	6455 ^{AC}	69	3	3980 ^{AC}	1236 ^{AC}	<1	<1	33	<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	107	<3	<3	106	18	<3	<3	5	<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	181	<3	<3	174	27	<3	<3	4	<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	407	<3	<3	296	82	<3	<3	8	<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	8	<3	<3	21	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	1409 ^{AC}	8	<3	1273 ^{AC}	328	<3	<3	19	<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	9	<3	<3	15	<3	<3	<3	<3	<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	8	<3	<3	13	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	3	<3	<3	3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Naphthalene	<2	<2	13	<2	<2	33	4	<2	<2	<2	<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	95	96	102	104	96	101	101	97	146	105	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	96	96	99	100	99	103	99	98	145	103	<0	%	TM15/PM10

Element Materials Technology

Client Name: Smith Grant LLP
Reference: R2174
Location: Tetrosyl
Contact: Louise Stock
EMT Job No: 24/5862

VOC Report : Liquid

EMT Sample No.	285-297	298-315	316-328									
Sample ID	RBH614(D)	RBH615(S)	RBH615(D)									
Depth	9.00-12.00	3.00-5.00	9.00-11.00									
COC No / misc												
Containers	V H N HCL Z P BOD G	V H N HCL Z P BOD G	V H N HCL Z P BOD G									
Sample Date	03/04/2024	03/04/2024	03/04/2024									
Sample Type	Ground Water	Ground Water	Ground Water									
Batch Number	1	1	1									
Date of Receipt	06/04/2024	06/04/2024	06/04/2024									
	LOD/LOR	Units	Method No.									
VOC MS												
Dichlorodifluoromethane	627	88	661							<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	1.3	5.9	0.6							<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3							<3	ug/l	TM15/PM10
Vinyl Chloride #	0.7	1.8	0.4							<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1							<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3							<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3							<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3							<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3							<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3							<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3							<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1							<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2							<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3							<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2							<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Benzene #	9.9	<0.5	10.5							<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2							<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3							<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2							<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2							<2	ug/l	TM15/PM10
Toluene #	20	<5	118							<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2							<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3							<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2							<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2							<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2							<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2							<2	ug/l	TM15/PM10
Ethylbenzene #	227	<1	221							<1	ug/l	TM15/PM10
m/p-Xylene #	131	<2	211							<2	ug/l	TM15/PM10
o-Xylene #	14	<1	36							<1	ug/l	TM15/PM10
Styrene	<2	<2	<2							<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2							<2	ug/l	TM15/PM10
Isopropylbenzene #	4	<3	5							<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4							<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2							<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3							<3	ug/l	TM15/PM10
Propylbenzene #	4	<3	6							<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	14	<3	13							<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3							<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	32	<3	27							<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3							<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2							<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3							<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3							<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2							<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3							<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	113	101	103							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	113	97	99							<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Element Materials Technology

Job number:	24/5862
Sample number:	101
Sample identity:	RBH606(S)
Sample depth:	7.00-9.00
Sample Type:	Ground Water
Units:	ug/l

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/5862
Sample number:	152
Sample identity:	RBH609(S)
Sample depth:	3.00-5.00
Sample Type:	Ground Water
Units:	ug/l

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/5862
Sample number:	209
Sample identity:	RBH320
Sample depth:	3.00-6.00
Sample Type:	Ground Water
Units:	ug/l

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/5862	Method:	VOC
Sample number:	227	Matrix:	Liquid
Sample identity:	RBH321		
Sample depth:	3.00-6.00		
Sample Type:	Ground Water		
Units:	ug/l		

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/5862	Method:	VOC
Sample number:	316	Matrix:	Liquid
Sample identity:	RBH615(D)		
Sample depth:	9.00-11.00		
Sample Type:	Ground Water		
Units:	ug/l		

Method: VOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/5862
Sample number:	169
Sample identity:	RBH609(S)
Sample depth:	3.00-5.00
Sample Type:	Ground Water
Units:	ug/l

Method: SVOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Job number:	24/5862
Sample number:	224
Sample identity:	RBH320
Sample depth:	3.00-6.00
Sample Type:	Ground Water
Units:	ug/l

Method: SVOC
Matrix: Liquid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

[illegible]

Element Materials Technology

Notification of Deviating Samples

Client Name: Smith Grant LLP

Matrix : Liquid

Reference: R2174

Location: Tetrosyl

Contact: Louise Stock

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/5862	1	RBH601(S)	5.00-7.00	1-13	BOD	Sample holding time exceeded
24/5862	1	RBH601(D)	9.00-12.00	14-26	BOD	Sample holding time exceeded
24/5862	1	RBH603(S)	3.00-5.00	40-51	VOC	Analysis taken from a previously sampled container.
24/5862	1	RBH605	5.50-7.50	88-100	BOD	Sample holding time exceeded
24/5862	1	RBH606(S)	7.00-9.00	101-113	BOD	Sample holding time exceeded
24/5862	1	RBH606(D)	9.50-11.50	114-126	BOD	Sample holding time exceeded
24/5862	1	RBH607	7.00-9.00	127-139	BOD	Sample holding time exceeded
24/5862	1	RBH608	3.00-5.00	140-151	BOD	Sample holding time exceeded
24/5862	1	RBH609(S)	3.00-5.00	152-170	BOD	Sample holding time exceeded
24/5862	1	RBH609(D)	6.50-8.50	171-189	BOD	Sample holding time exceeded
24/5862	1	RBH610(D)	6.50-8.50	190-208	BOD	Sample holding time exceeded
24/5862	1	RBH320	3.00-6.00	209-226	BOD	Sample holding time exceeded
24/5862	1	RBH321	3.00-6.00	227-245	BOD	Sample holding time exceeded
24/5862	1	RBH612	4.00-6.00	246-258	BOD	Sample holding time exceeded
24/5862	1	RBH613	9.00-11.00	259-271	BOD	Sample holding time exceeded
24/5862	1	RBH614(S)	4.00-6.00	272-284	BOD	Sample holding time exceeded
24/5862	1	RBH614(D)	9.00-12.00	285-297	BOD	Sample holding time exceeded
24/5862	1	RBH615(S)	3.00-5.00	298-315	BOD	Sample holding time exceeded
24/5862	1	RBH615(D)	9.00-11.00	316-328	BOD	Sample holding time exceeded

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.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/5862

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 35°C ±5°C.

Where Mineral Oil 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation 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 of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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	x5 Dilution
AC	x10 Dilution
AD	x200 Dilution

EMT Job No: 24/5862

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
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
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/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM25	Determinaion of Dissolved Methane, Ethane and Ethene by Headspace GC-FID	PM0	No preparation is required.				

EMT Job No: 24/5862

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
TM25	Determinaion of Dissolved Methane, Ethane and Ethene by Headspace GC-FID	PM0	No preparation is required.	Yes			
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.	Yes			
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM30/TM213	Calculation of Fe (III) based on Iron and Fe(II)	PM0	No preparation is required.				
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			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			

EMT Job No: 24/5862

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
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM83	Modified USEPA method 8260B v2:1996. Determination of Alcohols, Acetates, Acetone, Fuel Oxygenates, THF and Cyclohexane by Headspace GC-MS	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM107	Determination of Sulphide/Thiocyanate by Skalar Continuous Flow Analyser	PM0	No preparation is required.				
TM213	Fe(II) and Mn(II) by IC and Spectro	PM31	Prep of Waters for Inorganics				

APPENDIX E

INSTRUMENT CALIBRATION



Certificate of Calibration

Customer: Smith Grant LLP
Instrument: MiniRAE 3000
Job: Service, Test & Calibration
Serial number: 592-915404
Fleet Number: N/A
Certificate no: 915404 / 230123
Next calibration due date: 23 Jan 2024
Tested on: 23 Jan 2023
Calibrated for: Isobutylene

<u>Applied Gas Concentration:</u>	<u>Cylinder Reference:</u>	<u>Final Sensor Reading</u>	<u>Accuracy Limits</u>	<u>Pass / Fail</u>
Isobutylene: 100 ppm	62725 / 4622	99.9 ppm	± 5%	Pass ✓

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: *LESLEY BAINBRIDGE*

Sign: _____

Quality Assessed by (Print):	C.S.	Sign:	
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Certificate of Calibration

Customer: Smith Grant LLP

Instrument: MiniRAE 3000

Job: Service, Test & Calibration

Serial number: 592-915404

Fleet Number: N/A

Certificate no: 915404 / 260125

Next calibration due date: 26 Jan 2025

Tested on: 26 Jan 2024

Calibrated for: Isobutylene

<u>Applied Gas Concentration:</u>	<u>Cylinder Reference:</u>	<u>Final Sensor Reading</u>	<u>Accuracy Limits</u>	<u>Pass / Fail</u>
Isobutylene: 100 ppm	62880 / 0323	98.7 ppm	± 5%	Pass ✓

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: CHRIS SHILLITOE

Sign: _____

Quality Assessed by (Print):	C.S.	Sign:	
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Pro Series PCB & Cable Simulation Test

Temperature Range Check °C

Temp °C	(Resistance)	Complete	✓/X	Range	Meter	✓/X	Cable	✓/X
0.0 °C	(32.66 KΩ)	0.0	✓	-0.2 to 0.2 °C	-	-	-	-
10.0 °C	(19.90 KΩ)	10.0	✓	9.8 to 10.2 °C	-	-	-	-
40.0 °C	(5.239 KΩ)	40.0	✓	39.8 to 40.2 °C	-	-	-	-
25.0 °C	(10.00 KΩ)	25.0	✓	24.8 to 25.2 °C	-	-	-	-

Conductivity Check - SpCond Temp @ 25°C - Change Cal Value to 450µS/cm

SpCond	(Resistance)	Complete	✓/X	Range	Meter	✓/X	Cable	✓/X
450.0µS - GIP Cell Constant		5.00	✓	4.90 to 5.10	-	-	-	-
450.0µS	(11.11 KΩ)	450.0	✓	447.1 to 453.0 µS	-	-	-	-
4500 µS	(1111.0 Ω)	4499	✓	4471 to 4530 µS	-	-	-	-
45.00 mS	(111.10 Ω)	45.01	✓	44.86 to 45.35 mS	-	-	-	-
150.0 mS	(33.330 Ω)	150.0	✓	148.2 to 151.8 mS	-	-	-	-

Oxygen Range Check - %sat Temp @ 25°C, Yellow membrane, Polarographic. Change cal value to 760mmHg

WARNING! Restore sensor menu setting immediately after test if Galvanic DO probe is to be fitted

DO	(Resistance)	Complete	✓/X	Range	Meter	✓/X	Cable	✓/X
100.0%	(111.42 KΩ)	100.0%	✓	99.9 to 100.1%	-	-	-	-
8.26 mg/L	(111.42 KΩ)	8.26	✓	8.24 to 8.28 mg/L	-	-	-	-
44.6%	(250.0 KΩ)	44.6%	✓	44.4 to 44.8%	-	-	-	-
3.68 mg/L	(250.0 KΩ)	3.68	✓	3.66 to 3.70 mg/L	-	-	-	-
6.6%	(2.04 MΩ)	6.4%	✓	5.1 to 5.9%	-	-	-	-
0.45 mg/L	(2.04 MΩ)	0.45	✓	0.41 to 0.49 mg/L	-	-	-	-
0.0%	(200 MΩ)	0.0%	✓	-1.0 to 1.0 %	-	-	-	-
0.00 mg/L	(200 MΩ)	0.0	✓	-0.01 to 0.01 mg/L	-	-	-	-

DO Polarizing voltage Check

DO Setting	Complete	✓/X	Range	PCB	✓/X	Cable	✓/X
Polarographic	760	✓	760 to 840	-	-	-	-
Galvanic	0	✓	0	-	-	-	-

YSI Pro Series Annual Maintenance Service

ROA # 231434	Customer: Smith Grant
Date: 02/10/2023	Contact: Dan Wayland
YSI Service Tech: Martin Maddams-wilkinson	Customer Reference Number: NA

Instrument Details	Model	Serial Number	Inspection / Notes
Meter (Pro Plus, Pro 20, etc)	Pro Quatro	21B1C66C1	
Cable (20-4, Quatro-1, etc)	Quatro 4m	21C100326	
DO Sensor (Galv, Pol)	PO1	21B1C0363	
C/T Sensor (5550, integral)	5550	21B1C08C1	
ISE 1	PH	22C	
ISE 2	ORP	17C	
Accessories			

Notes:

Test Equipment	Model	Serial Number	Last calibrated
Simulation test box	YSID04	020	10/01/2023
Temperature meter control	Fluke 152	A6BC32.B4A2800	30/07/2023
DVM	Fluke 267	96580193	09/12/2022
pH meter control	AB15-	AB92234207	31/01/2023

Notes:

	OK	Details
Downloaded config and files to server/PC	YES	File Name:
Software update	-	Version: 4.0.0
O-rings, gasket and vent plug replacement	YES	
Fitted warranty and tested labels	YES	
Reconditioned DO sensor and replaced membrane	YES	Membrane Type: Yellow
Cleaned ISE sensors	YES	
Cleaned C/T sensor	YES	

Notes:

Pro Series PCB & Cable Simulation Test (cont)

pH mV Range Check °C

Uncal ISE1 and ISE2 before test.
Test with Temp at 25°C

pH	Complete	✓/X	Range	PCB	✓/X	Cable	✓/X
ISE1 pH 7	6.99	✓	6.98 to 7.02 pH				
ISE1 pH 7 mV	0.3	✓	-2 to 2 mV				
ISE1 pH7 high Ω	1.8	✓	-9 to 9 mV				
ISE2 ORP 0mV	0.3	✓	-2 to 2 mV				
ISE2 ORP high Ω	1.8	✓	-9 to 9 mV				
ISE1 pH 4	4.00	✓	3.98 to 4.02 pH				
ISE1 pH 4 mV	177.6	✓	175 to 179 mV				
ISE1 pH 4 high Ω	176.7	✓	168 to 186 mV				
ISE2 ORP 177mV	177.6	✓	175 to 179 mV				
ISE2 ORP high Ω	176.6	✓	168 to 186 mV				
ISE1 pH 10	9.99	✓	9.98 to 10.02 pH				
ISE1 pH 10 mV	-177.1	✓	-175 to -179 mV				
ISE1 pH 10 high Ω	-173.5	✓	-168 to -186 mV				
ISE2 ORP -177mV	-177.1	✓	-175 to -179 mV				
ISE2 ORP high Ω	-173.5	✓	-168 to -186 mV				

Cable Simulation Plug Tests

WARNING! Restore sensor menu setting immediately after test if Galvanic DO probe is to be fitted

Parameter	Value	✓/X	Range	Cal Restored?
Temperature	25.0	✓	25 C ± 0.02	
Conductivity	500	✓	500 uS/cm ± 2	
pH	6.99	✓	7 ± 0.02	
pH milli-volts	0.3	✓	0 mV ± 2.0	
Dissolved Oxygen	127	✓	130.0 % ± 5	
ORP	0.2	✓	0 mV ± 2.0	

Open Inputs Cable Test

Parameter	Value	✓/X	Correct Output
Temperature	— C	✓	— C
Conductivity	?????	✓	< 3 uS/cm
Dissolved Oxygen	?????	✓	?????
pH	?????	✓	?????

Pro Sensor Testing & Diagnostics

DO Sensor Test

Sensor must be reconditioned, rinsed and dried

Test	Value	✓/X	Range
Resistance between Anode and Cathode	PASS	✓	200m Ω or more OL
Resistance between Anode and connector	PASS	✓	
Resistance between Cathode and connector	PASS	✓	
Zero DO test	PASS	✓	<2% within 5 minutes

Bench pH Sensor Test

Standard	mV Value	✓/X	Range
pH 7	0.3	✓	-60 to 60 mV
pH 10	-171.4	✓	-130 to -180 mV
pH 4	173.5	✓	130 to 180 mV
Slope 7 to 4	173.2	✓	162 to 190 mV
Slope 7 to 10	171.7	✓	162 to 180 mV

pH Sensor response test

Sensor immersed in pH 4 buffer after calibration
 Transfer to aerated freshwater test tank

	Value	✓/X	Range
pH Control Value	5.65	✓	+/- 0.2 pH
pH value after 3 minutes	5.58	✓	+/- 0.2 pH

Sensor Test Calibration Diagnostics

Temperature	Control Thermistor	19.621	°C	19.6	+/-0.2°C ✓ OK	
Specific Conductance	Cal value in 1413µS/cm	1432	Air / Dry 5 to -5 µS/cm	0	Cond Gain (4.50 to 5.50)	4.93
Dissolved Oxygen	—no Polarisation	99.2	mmHg	767.3	DO Gain (0.5 to 5.5)	5.4
pH	7.02 @ 19.6°C		4.00 @ 19.6°C		10.07 @ 19.5°C	
pH mV	7.00	0.3	4.00	173.5	10.00	171.4
Slope	+162 °C +185 °	173.2	→	171.7	+162.10 185	
ORP mV Check	Temp °C	19.6	258.7mV	262.2	Offset	

Summary

This YSI Pro Series instrument has been serviced, tested and calibrated by a Xylem Analytics UK engineer and is working to the manufacturer's specifications.

Xylem Analytics UK Service Engineer

Tim Widdow / Service Technician