Project Number: P2970

Appendix 9.3

Generic Quantitative Risk Assessment

Cavan Regional Sports Campus,

Client: McAdam Design

Issued: March 2024

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1.0 INTRODUCTION

MCL Consulting Ltd (MCL) was appointed by McAdam Design on behalf of Cavan County Council to undertake a Tier 2 Generic Quantitative Risk Assessment (GQRA) for the proposed development of a sports campus to be located on lands north, south and west of Royal School Cavan and west of Breffni Park GAA grounds, County Cavan. This follows on from a recommendations provided in a previously completed Preliminary Risk Assessment (PRA) and a Preliminary Sources Study Report (PSSR).

The current proposal includes;

- Indoor sports complex to include sports halls with spectator seating, fitness studios, changing facilities, reception, café and ancillary accommodation.
- 7 no. outdoor sports pitches.
- Covered sports arena with playing pitch, spectator seating and other ancillary accommodation.
- Ancillary sporting facilities include 8 lane athletics track and cricket practice nets.
- New vehicular access / junction and closure of Park Lane/Dublin vehicular junction, relocation of existing Breffni Park turnstiles to facilitate reconfiguration of Park Lane, bridge structure, internal roads, cycle/pedestrian paths, associated car/bus/cycle parking, electric charge points and streetlighting.
- Pedestrian access points of Kilnavarragh Lane and Dublin Road.
- Hard and soft landscaping including acoustic fencing, wildlife habitat area/corridors, artificial badger-sett, walking trails and other ancillary works such as spectator stands, retaining walls, fencing and ball stop fencing, team shelters, toilet block, floodlighting, signage, drainage infrastructure including attenuation tanks, SuDs and culverting of a minor watercourse, storage space, ESB Substation, ancillary accommodation and all associated site works to accommodate the development.
- The proposed bridge is a single span integral reinforced concrete bridge, supported on piled foundations.

1.1 PRA Summary

The PRA *Preliminary Risk Assessment and Preliminary Sources Study Report,* recommended that a ground investigation to quantify the risks to human health and the environment is required under LRCM due to identification of multiple areas of possible land contamination due to previous development. This includes areas of land raise in a northern area of the site, an area of disturbance/clearance associated with a playing field and a car park development in the central area of the site.

The mapped presence of alluvium associated with the Cavan River, presents a possible presence of ground gas due to organic content, therefore the footprints of buildings need to be investigated to enable assessment of the need for gas protection.

It was recommended that a ground investigation comprising of a combination of installed shallow monitoring boreholes (for groundwater levels, quality and ground gas monitoring) and shallow trial pitting. These boreholes will be drilled into the underlying drift deposits to establish groundwater levels, existing groundwater quality, to allow for the collection of soil samples and ground gas data.

1.2 Site Setting

The site, c.28ha, is located in central Cavan, County Cavan, on lands surrounding Royal School, College Street and west/northeast of Kingspan Breffni (IGR: 241769, 303932). A site location map is presented as Figure 1 and the site area is presented as Figure 2.

Figure 1: Site Location Map

The site currently occupied by agricultural land adjacent to Royal College, County Cavan and Breffni Park GAA. The surrounding area is characterised as largely residential, with mixed recreational and commercial land uses surrounding. A summary of the properties / land-use immediately adjacent to the site is presented in Table 1.

Table 1: Summary of Adjacent Land Use

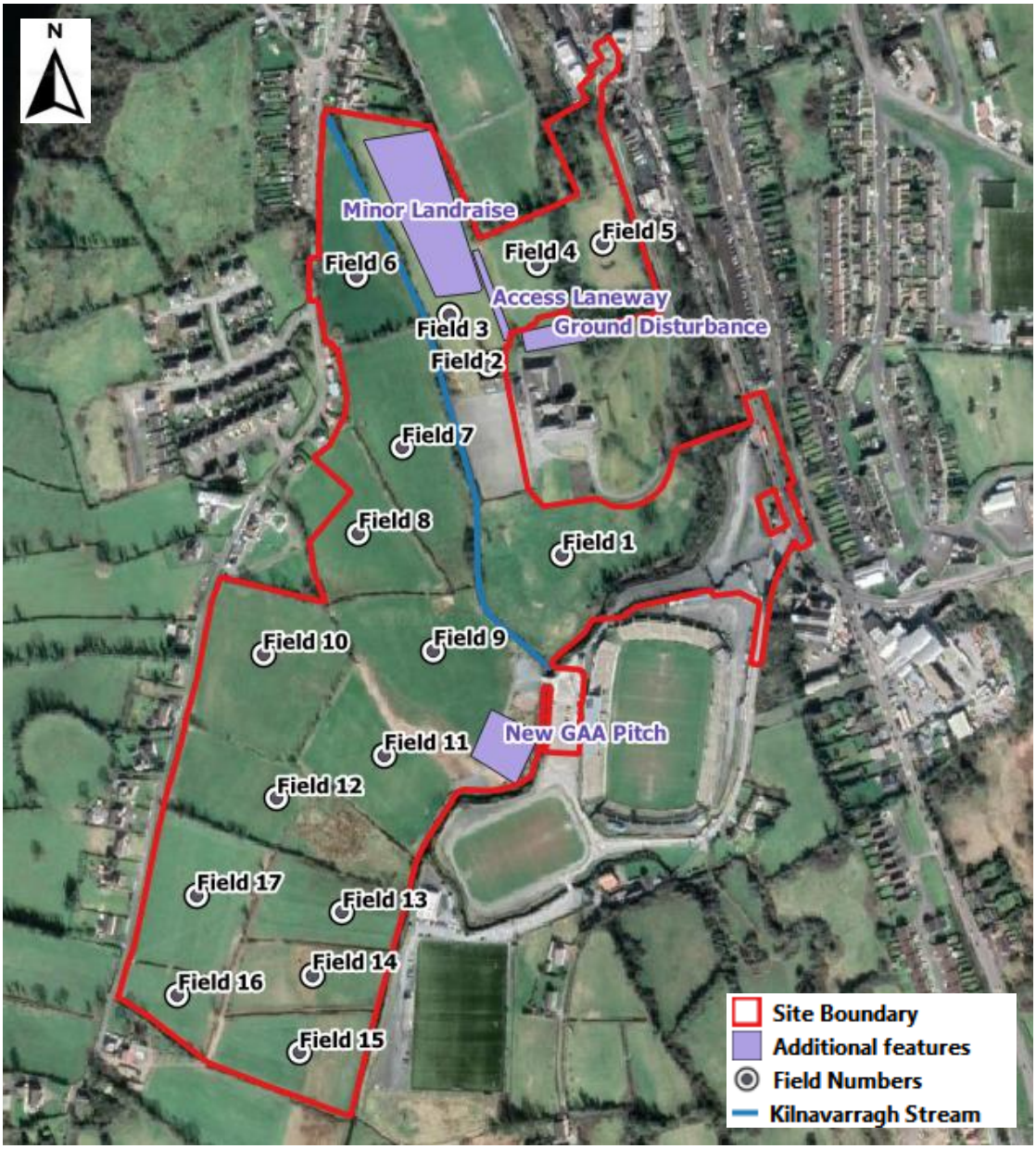
Orientation from Site	Neighbouring Property/ Land Use beyond Site Boundaries
North	Sport fields are directly to the north of the site with residential/commercial properties beyond this leading into Cavan town.
South	Developed sport fields lie directly to the south with adjacent agricultural fields. Lands beyond this are dominated by agricultural lands with small residential properties within.
East	Residential/commercial properties with agricultural properties beyond.
West	Agricultural/residential properties are adjacent to the site with Swellan Lough beyond this. Lands beyond this are for agricultural/residential use.

Figure 2: Aerial Image of the Site Boundary

1.3 Site Walkover

A site walkover was undertaken by MCL on 20th April 2023. A tributary of the Cavan River enters the site via a culvert under the Kilnavarragh Lane, flowing southwards in an open wooded channel, before flowing southeast into the Cavan River. This tributary roughly dissects the site into east and west. Therefore, for ease of description, the site can be divided into lands east of the tributary and lands west of the tributary, as shown on Figure 3. The site consists of seventeen separate fields also shown on Figure 3.

Figure 3: Separation of Site into field sections



1.3.1 East of the Tributary

This area of site can be accessed via access road into Royal School Cavan. From this access road, there is an all-weather gravel sports pitch used by the school. To the west of this pitch is the tributary which dissects the site. South of the pitch is Field 1, which is greenfield land. The topography slopes to the south/southeast in this area, where the field borders the Cavan River. There was an area of marshy land in the southwest of this field along the tributary. Drainage pipes from Breffni Park grounds, were identified flowing into the Cavan River. Looking south from the recently constructed Aggregate Access Laneway allowing access to farmlands north of new school building, ponded water is noted on the surface of the laneway.

North of Field 1 is a gravel pitch currently used by Royal School Cavan as a Car Park in the south and a Physical Education ground. Slightly upgradient of the Gravel Pitch is a grass field (Field 2). East of Field 2, beyond the site boundary and encroaching into Field 4 is an active construction site, where the construction of a new 2-storey school building structure has recently been completed. Groundworks within this area include a land cut / reprofiling and land-raising in an area behind the new-constructed retaining structure.

To the north of the new school building, within Field 3 and Field 4, localised land-stripping has been undertaken to create a new hardcore access lane. This leads northwards, opening up into a large area of very recent minor land raise. A c.1m thick layer of what appears to be mainly clay materials arising from the school development cut has been spread out over agricultural lands to the north of the school development. The western area of Field 3 and the eastern area of Field 4 have remained mainly greenfield.

Field 5 is located slightly upgradient of Field 4 and is greenfield land. There is then a steep decline in topography eastwards towards the Cavan River.

1.3.2 West of the Tributary

Field 6 and Field 7 are located west of the tributary. The topography increases west from Field 2 and Field 3 to Field 6 and Field 7. The topography decreases from Field 6 towards Field 7. Field 6, Field 7 and Field 8 are all greenfield land with no previous activities occurring in these areas.

Field 9 can be accessed via a newly-constructed bridge across the Cavan River located within the grounds of Breffni Park GAA grounds car park. The land slopes upgradient in a north west direction from the bridge. In the east of this field, a car park associated with Cavan GAA is currently under construction. A GAA playing pitch has recently been constructed along the south/south west of Field 9. This would have required a programme of ground disturbance cut and fill / alteration of land profile to create a flat platform on what have originally been sloping lands.

The field boundary and associated small area of woodland observed to exist between Field 9 and Field 11, as observed by comparing aerial photography dated between 2021 and 2022, has recently been removed creating a strip of bare / disturbed cleared ground now partly occupied by the new playing field.

In the northwest corner of Field 9, along the boundary with Field 8, a low flowing watercourse enters the site flowing southeast.

Field 10 located upgradient of Field 11, the boundaries of which is separated by a ditch with limited water flow. Field 12 is also separated from Field 10 and Field 11 by a ditch, with limited, stagnant water. Field 10, Field 11 and Field 12 (scrub) are all greenfield land with no evidence of former land use activity.

Field 13-17 are located in the southernmost regions of the site. The walkover of these fields indicated that the vast majority of areas are all greenfield land, with no evidence of contaminating land use evident. There is a clear decrease in elevation between Fields 16 and 17 and the lower Fields 13-15, with the lower fields meeting the Cavan River on the eastern boundary. Fields 13-15 showed extensive flooding during the site visit, likely from field drains present along the field boundaries. The flooding covered a large portion of the eastern sections of the fields.

2.0 GROUND INVESTIGATION TO INFORM GQRA

2.1 Scope of Works

Following on from the potentially complete pollutant linkages identified in the Initial Conceptual Model, an intrusive investigation was undertaken by MCL. The investigation was undertaken to obtain site specific environmental data to aid confirmation of the potential pollution linkages identified in the initial conceptual site model.

The ground investigation was carried out by Northwest Geotech between 22nd January to 26th January 2024 and 1st February 2024.

Works comprised;

- Drilling of 25no. Shallow Boreholes (SBH01-SBH25)
- Installation of 25no. groundwater and Ground Gas Monitoring wells (SBH01-SBH25)
- 4no. return gas and groundwater monitoring visits;
- Sampling and analysis of selected soils, groundwater and surface water;
- Interpretation of analytical results and determination of relevant assessment criteria;
- Production of site Generic Quantitative Risk Assessment (GQRA);

The locations of the investigative boreholes are presented in Appendix B. Locations were chosen based on allowing for a wide range of areas to be analysed.

The works were undertaken in accordance with all relevant guidance including *Land Contamination Risk Management (LCRM)* and *Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites.*

2.2 Monitoring Wells and Return Monitoring Visits

Groundwater and ground gas monitoring wells were installed in the shallow windowless sampler boreholes SBH01-SBH25. Each installation was installed with 50mm (ID) HDPE. The response zones are detailed on the borehole logs in Appendix D.

2.2.1 Groundwater and Ground Gas Data Collection

Groundwater samples were collected on 12th February 2024 from SBH02, SBH07, SBH09, SBH12, SBH16, SBH19, SBH20, SBH22, SBH24 and SBH25.

2.2.2 Surface Water Data Collection

Six Surface Water samples were collected on 25th January 2024 from SW1 to SW6.

2.2.3 Ground Gas Data Collection

Ground gas data was collected at SBH01 to SBH25 on 16th February, 20th February, 26th February and 1st March 2024.

2.3 Selected Laboratory Analysis

29no. soil samples were sent to UKAS accredited Eurofins Chemtest Ltd for selected analysis. The samples are presented in Table 2. All samples were sent for analysis of; CLEA Heavy Metals, PAH 16, TPH CWG, BTEX, VOCs, Cyanide (Free and Total) Phenol, SOM, pH, Sulphate, and Asbestos Screen. Samples SBH02 (0.5m), SBH04 (0.50m), SBH06 (1.0m), SBH09 (1.0m) and SBH11 (0.50m) were also screened for PCBs, as they are located in the west of the site and an historical railway line was located west of the site. The soil laboratory results are included in Appendix E.

Table 2: Soil Samples

Location I.D	Depth (mbgl)
SBH01	0.5
SBH01	1.0
SBH02	0.5
SBH03	0.5
SBH04	0.5
SBH04	2.0
SBH06	1.0
SBH07	0.5
SBH08	0.5
SBH09	1.0
SBH10	2.0
SBH11	0.5
SBH14	0.5
SBH14	1.0
SBH15	0.5
SBH15	2.0

SBH16	0.5
SBH17	1.0
SBH19	0.5
SBH19	2.0
SBH21	1.0
SBH22	0.5
SBH22	1.0
SBH23	0.5
SBH23	2.0
SBH24	1.0
SBH25	1.0
SBH25	1.9

2.3.1 Groundwater Sampling and Laboratory Analysis

Groundwater samples were obtained on 12th February 2024 from SBH02, SBH07, SBH09, SBH12, SBH16, SBH19, SBH20, SBH22, SBH24 and SBH25.

Groundwaters from all sample points were analysed for:

• Low Level CLEA Metals: (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, V, Be, Ba, B, Cr VI, Cr III, Fe, Ca, Mg, Na, K, Mn), Total Cyanide, Free Cyanide, PAH 16, TPH CWG, BTEX, VOCs, Phenols, pH, SO4, Electrical Conductivity, BOD, COD, Ammoniacal Nitrogen, NO_2 ,NO_3, Colour, Odour, Cl, PO4, Total Alkalinity, Total Hardness, TDS, TOC and Total Surfactants. The laboratory analysis was undertaken by UKAS accredited laboratory Eurofins Chemtest Ltd. The groundwater laboratory results are included in Appendix F.

2.3.2 Surface Water Sampling and Laboratory Analysis

6no. surface water samples were obtained on 25th January 2024 at sample points (SW1 to SW6), as presented in Appendix C and Table 3.

Table 3: Surface Water Sampling

I.D	Description
SW1	Cavan River: Upflow
SW2	Cavan River: Midflow. After stream outfall

SW3	Cavan River: Midflow
SW4	Cavan River: Downflow
SW5	Stream: Upflow
SW6	Stream: Downflow prior to discharge into Cavan River

Surface Water analysis from SW1 to SW6 sample points included:

• Low Level CLEA Metals: (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, V, Be, Ba, B, Cr VI, Cr III, Fe, Ca, Mg, Na, K, Mn), Total Cyanide, Free Cyanide, PAH 16, TPH CWG, BTEX, VOCs, Phenols, pH, SO4, Electrical Conductivity, BOD, COD, Ammoniacal Nitrogen, NO_2 ,NO_3, Colour, Odour, Cl, PO4, Total Alkalinity, Total Hardness, TDS, TOC and Total Surfactants. The laboratory analysis was undertaken by UKAS accredited laboratory Eurofins Chemtest Ltd. The surface water laboratory results are included in Appendix G.

2.4 Summary of Ground Conditions

All information given in the following sections is based on the ground conditions encountered during the site intrusive works.

The ground conditions observed during the intrusive investigation are detailed on the exploratory hole logs presented in Appendix D and Geological Cross Sections presented in Appendix I.

Ground conditions identified onsite through shallow borehole logs taken by *Northwest Geotech* are described below. The Boreholes were drilled to depths of between 2.2m and 4.0m. The shallowest borehole was SBH24 which was terminated at 2.2m on possible bedrock/boulder. The deepest boreholes were SBH12, SBH16, SBH17, SBH18, SBH20 and SBH22, which were all terminated at 4.0m also on possible bedrock/boulder.

The ground conditions identified through shallow borehole logs were characterised as either all natural ground of Clay and/or Gravel, or Made Ground overlying Clay. There were no odours or visual evidence of contamination reported.

2.4.1 Made Ground

Made Ground was located at SBH05, SBH12, SBH13, SBH18 and SBH25. Made Ground was shallowest at SBH18 where it was found to a depth of 0.35m and was deepest at SBH13

where it was found to a depth of 2.30m at termination of the borehole. The Made Ground consisted of mainly gravel/clay with occasional red brick and quarry stones.

2.4.2 Clay

Natural Clay was located at every location, except SBH25 which was terminated in the Made Ground at 2.30m, either as the entire strata at the location or underlying the Made Ground at the above locations which consisted of Made Ground in the upper layer. The natural Clay was generally described as gravelly silty Clay in all locations.

2.4.3 Water Strikes

Water was struck in multiple shallow boreholes at depths of 2.0m or 3.0m over the sampling period with water rising after a 20-minute period at all locations but to differing depths. At SBH02, SBH03, SBH04, SBH06, SBH07, SBH12 and SBH19 water was struck at 2.0m and rose to 1.4m 1.5m, 1.9m 1.7m, 1.2m, 1.1m in a 20-minute period respectively. At SBH19 water was struck at 3.0m and rose to 2.0m in a 20-minute period.

2.5 Groundwater Levels

Groundwater monitoring wells were installed in SBH01-SBH25. Spot dips were taken at each location on 16th February, 20th February, 26th February and 1st March 2024.

2.5.1 Groundwater Level Monitoring and Flow Patterns

A groundwater flow map for the general conditions in the natural gravelly Clay unit has been produced from available site-specific groundwater levels from SBH01-SB25, and is presented in Figure 4. Groundwater levels are presented in Figure 5. It can be seen that groundwater levels remained relatively consistent over the monitoring period.

The groundwater flow map and hydrographs indicate a general west to east groundwater flow direction over lands to the west of the Cavan River, and a general east to west groundwater flow direction over lands to the east of the Cavan River. This confirms, as expected, that all shallow groundwater flow is toward the Cavan River. The Cavan River will therefore receive baseflow from the shallow groundwaters at the site. The shallow groundwater system underlying the site is therefore hydraulically connected to the Cavan River.

Figure 4: Groundwater Flow Map

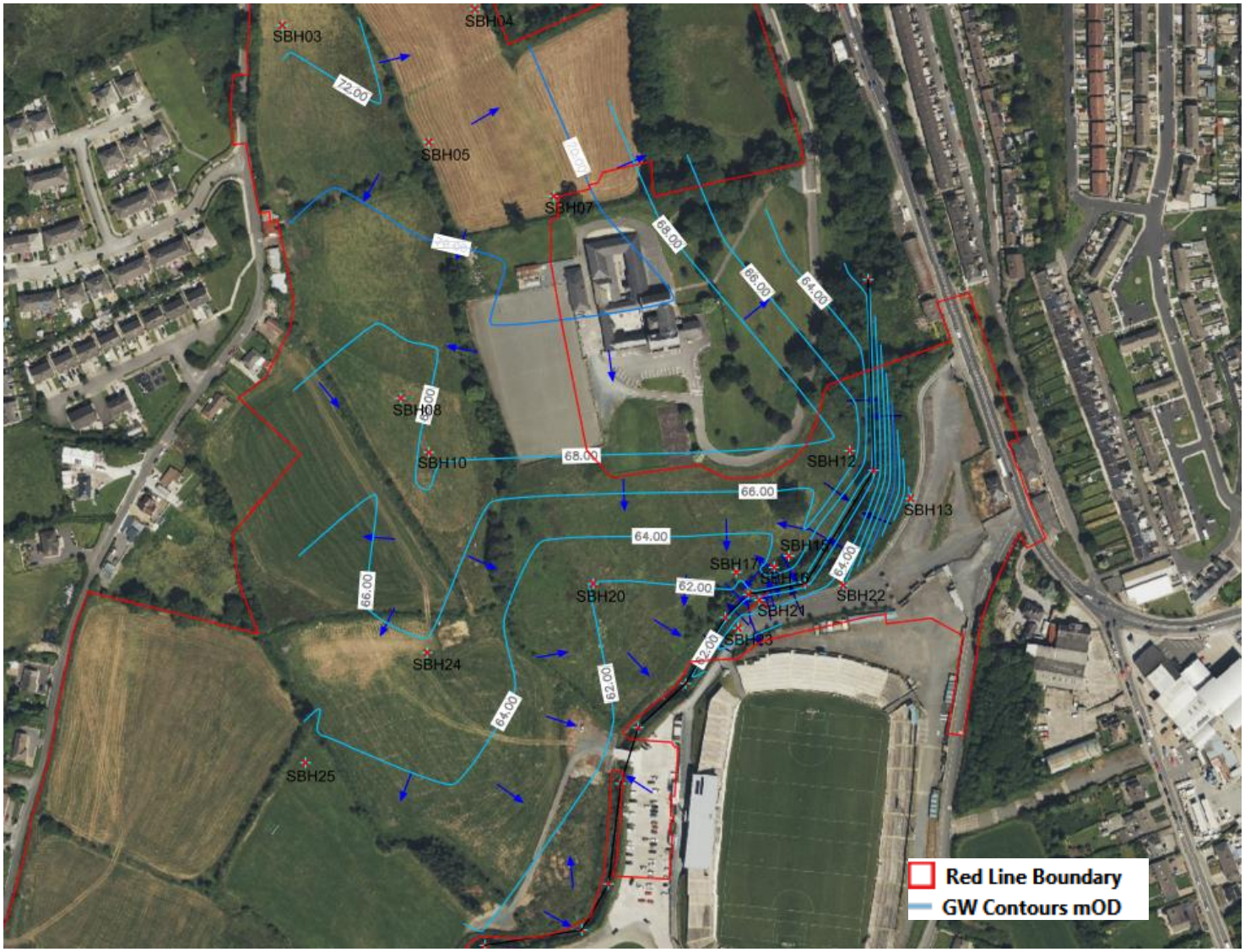
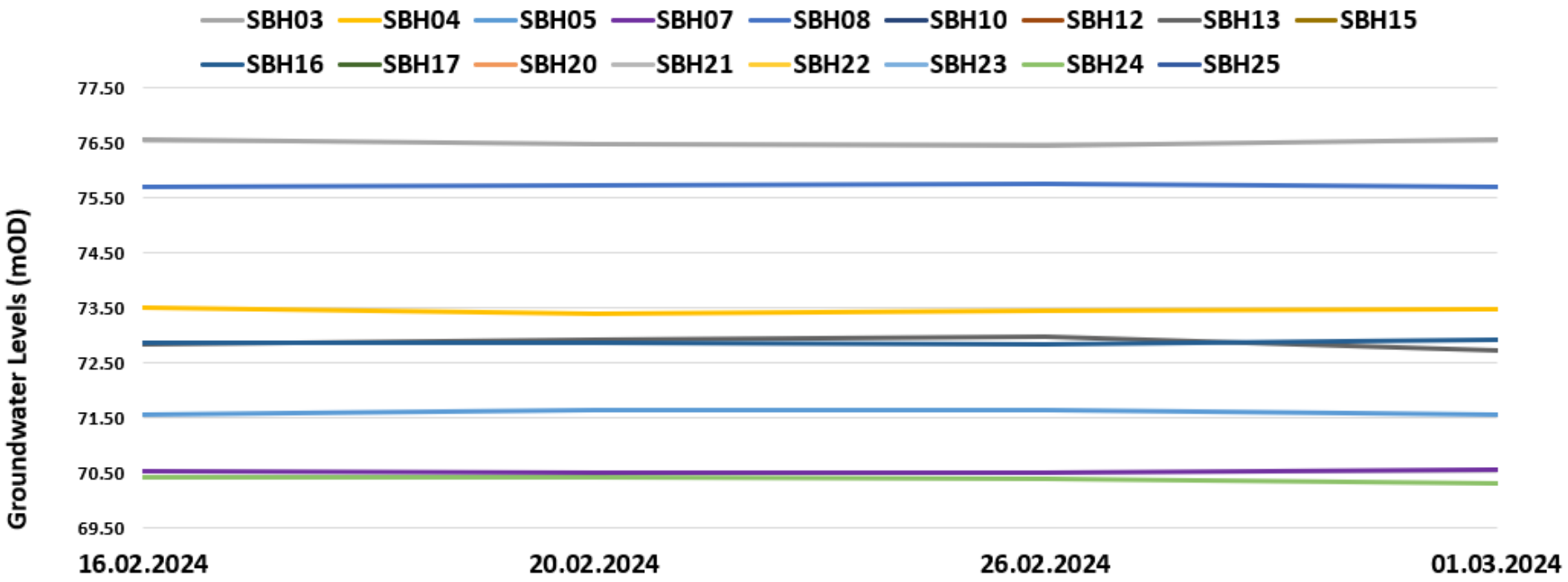


Figure 5: Groundwater Levels mOD



3.0 ASSESSMENT OF RESULTS

The following sections present screening of the soil and water results in order to identify any exceedances which may present a risk to Human Health or the Environment.

3.1 Soil Chemical Assessment

All locations were compared against the Public Open Spaces (Park) 1%SOM LQM/S4Uls.

No Lead screening value is currently published by LQM, therefore the Category 4 Screening Level (C4SL) of 300mg/kg for Public Open Space (Park) has been used. These Lead screening values were referenced from *SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document (Department for Environment, Food and Rural Affairs December 2014).*

3.2 Review of Soil Laboratory Results

No exceedances were detected in any of the soil samples. There were minor detections of TPH CWG, however no exceedances of the Soil Guidance Values. There were no detections of PAH 16, VOCs, PCBs or Phenols. Overall, there are no significant concerns regarding the underlying soils quality and they are not considered a Human Health risk.

3.3 Asbestos Screening

Asbestos screening was undertaken at all locations. There were no positive detections of Asbestos.

3.4 Review of Groundwater Laboratory Results

Groundwater samples were obtained on 12th February 2024 from SBH02, SBH07, SBH09, SBH12, SBH16, SBH19, SBH20, SBH22, SBH24 and SBH25. The groundwater laboratory results are provided in Appendix F.

All groundwater results were compared against available Drinking Water Standards (DWS). The following exceedances were detected;

- Iron DWS of 200ug/l exceeded at SBH22 300ug/l and at SBH25 280ug/l
- Nickel DWS of 20ug/l exceeded at SBH22 37ug/l and SBH25 29ug/l

These exceedances are not considered environmentally significant. It is possible that these exceedances are naturally occurring. The groundwaters were located within the natural gravelly Clay.

There were no detections of Phenol, Cyanide, Hydrocarbons or VOCs in any of the groundwater samples. Overall, there is no concern with groundwater quality.

3.5 Review of Surface Water Laboratory Results

The Surface Water laboratory results are included in Appendix G. Surface Water samples were obtained on 25th January 2024 from SW1 to SW6.

All Surface Water results were compared against available Environmental Quality Standards (EQS). The following exceedances were detected:

- Chromium EQS of 4.7ug/l exceeded at SW5 5.9ug/l
- Copper EQS of 1.0ug/l exceeded at SW1 4.3ug/l, SW2 5.3ug/l, SW3 3.7ug/l, SW4 4.9ug/l, SW5 1.8ug/l and at SW6 3.2ug/l. The EQS of 1ug/l is a relatively low EQS based on trying to achieve a Good standard for the watercourse. These results are significantly below the DWS of 2,000ug/l.
- Iron EQS of 1,000ug/l exceeded at SW2 1500ug/l and at SW6 1,500ug/l
- Lead EQS of 1.2ug/l exceeded at SW2 1.5ug/l, SW4 1.6ug/l and SW6 1.9ug/l
- Manganese EQS of 123ug/l exceeded at SW2 360ug/l, SW5 140ug/l and at SW6 250ug/l

These metals are likely to be naturally occurring in the watercourse, given that there are no nearby anthropogenic sources. The exceedances are unlikely to be environmentally significant. There were no detections of, Phenol, Cyanide, Hydrocarbons or VOCs in any of the surface water samples. There are no significant changes in water quality between up flow, midflow and downflow locations. Overall, there is no concern with surface water quality.

3.6 Ground Gas Assessment

Ground gas monitoring was undertaken on 16th, 20th, 26th and 1st March 2024 across 25no. monitoring boreholes within the site boundary. Results are presented in Appendix H.

During the monitoring period, atmospheric pressure ranged from 988mb to 1021mb across falling, rising and constant pressures.

3.6.1 Gas Screening Values

The recorded Methane and Carbon Dioxide concentrations and the source of the gas have been reviewed in accordance with the guidance in C665, BS8576 and BS8485. Borehole Hazardous Gas Flow Rates (Qhg), also known as Gas Screening Values (GSVs), have been calculated based on the gas data collected across the 4no. monitoring visits at each location. Borehole hazardous gas flow rates for each borehole have been calculated based on:

$$Qhg = \text{Flow rate (l/hr)} \times (\text{gas concentration} /100)$$

with the Peak Flow rate and Peak concentration of Methane used, whilst the Steady State flow rate and Steady concentration of Carbon Dioxide is used.

Table 8.5 of CIRIA C665 (Figure 6) presents the Hazardous Gas Flow rates for each Risk Classification.

Figure 6: Table 8.5 from CIRIA C665

Characteristic Situation	Limiting Volume Flow CH4/CO2 (l/hr)	Additional Limiting Factors	Source of Gas Generation	Risk Classification
1	<0.07	Methane <1% and Carbon Dioxide <5%	Natural soils with low organic content	Very Low Risk
2	<0.7	Borehole air flow rate >70l/hr increase to Characteristic Situation 4	Natural soil, high peat/organic content	Low Risk
3	<3.5	Borehole air flow rate >70l/hr increase to Characteristic Situation 4	Old landfill, inert waste, mine working flooded	Moderate Risk
4	<15	Quantitative risk assessment required to evaluate scope of protection measures	Mine working susceptible to flooding, completed landfill, inert waste (WMP 26B criteria)	Moderate to High Risk
5	<70		Mine working unflooded inactive	High Risk
6	>70		Recent landfill site	Very High Risk

3.6.2 Ground Gas Summary

Review of the gas monitoring data identifies that Carbon Dioxide was not detected on site. A minimal concentration of Methane at 0.1%vol was detected across all monitoring rounds of the site with the same 0.1% detection for LEL.

Steady flow was measured between 0.2-0.3l/h across all monitoring points on site with Oxygen levels remaining between 21.0% and 21.3%.

The site has been classified as CS1 Very Low Risk as all Hazardous Gas Flow rates were <0.07l/hr. Therefore, no ground gas mitigation measures are required.

4.0 REVISED CONCEPTUAL MODEL

Based on findings from the Preliminary Risk Assessment and on findings above from the ground investigation and subsequent collection of soil samples, groundwater samples, surface waters and ground gas data, a revised conceptual site model is presented below.

Table 4: Revised CSM

Source	Pathway	Receptor	Risk Category / Rating
On site: Construction waste material in the north of the site. Gravel pitch likely to contain Made Ground Land disturbance and Cut-fill construction activities may have introduced soil contaminants.	Ingestion / Direct Contact	End site users Construction Workers Maintenance Workers	**LOW** Limited Made Ground on site. There were no exceedances of the SGVs for Public Open Space (Park). Should end site users come into contact with underlying soils, the soils would not pose a risk to them.
	Leaching, lateral and vertical migration	Groundwater Bedrock	**LOW** Limited minor DWS exceedances of naturally occurring elevated metals detected in the groundwaters.
	Leaching, lateral and vertical migration	Watercourses and Surface Water	**LOW TO MODERATE** Limited minor EQS exceedances of naturally occurring elevated metals detected in the groundwaters. The construction phase of the development has the potential to adversely impact on local surface waters. However, both a Construction and Environmental Plan and a Piling Risk Assessment are recommended. These would include measures to ensure the protection of the surface waters.
Ground gas / vapours generated from Made Ground and Alluvium in the north and southeast of the site	Gas ingress into buildings and site infrastructure	End site users	**LOW** The site is classified as CS1 Very Low Risk. There were no detections of Carbon Dioxide and limited detections of Methane. No ground gas protection measures would be required.
	Migration into services, inhalation of ground gas by workers	Site Workers Maintenance workers	**LOW** Exposure times should be dealt with in safe systems of works, such as for entering of excavations and confined spaces.
Radon	Gas ingress into buildings and site infrastructure	End Site Users	**LOW** The site is in an area where between 1 and 5% of the homes in this 10km^2 grid square are estimated to be above the Reference Level of 200 becquerels per cubic metre (Bq/m3).

5.0 SUMMARY AND RECOMMENDATIONS

5.1 Summary

The Generic Quantitative Risk Assessment (GQRA) was informed by an intrusive investigation consisting of 25no.boreholes, the collection of 29no. soil samples, 10no. groundwater samples, 6no. surface water samples and collection of ground gas data from 25no. locations across four monitoring rounds.

The data collected during the investigation indicates that there was limited Made Ground across the site. The Made Ground was generally underlain by natural gravelly Clay.

There were no exceedances detected in the underlying soils. There are no environmentally significant concerns in relation to groundwaters and surface waters. Regarding ground gas, the site is classified as CS1 Very Low Risk and therefore, no ground gas protection measures are required.

Overall, the site is deemed **Suitable for Use** and no further investigation is required.

5.2 Other Recommendations

Piling will be required at the bridge in the east of the site. A Piling Risk Assessment should be produced to assess any contamination risks posed by piling into water bearing deposits hydraulically linked to the Cavan River.

An Outline Construction Environmental Management Plan and Environmental Monitoring Plan have been completed to detail how the risks to surface waters and groundwaters will be managed during the construction phase.

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Senior Consultant
Chartered Geologist
Chartered Waste Manager

APPENDIX A: Development Plan

LEGEND

1. Sports Building
2. Sports Arena
3. Synthetic Hockey Pitch (non-water based)
4. Athletics Track (400m)
5. External Synthetic Multi-Sport Pitch
6. Sand Mattress GAA Fields
7. Covered Stands (3No.)
8. Toilet Block
9. Cricket Practice Nets

- SITE BOUNDARY
- NATURAL TURF PITCH SURFACE
- SYNTHETIC GRASS PITCH SURAFCE
- ATHLETICS TRACK - EPDM POLYMERIC RUBBER SURFACE
- GRASS SURFACE / SOFT LANDSCAPED AREAS (Refer to Landscape Architects Drawings ref: XXXX)
- EXISTING NATURAL LANDSCAPE AND HABITAT MAINTAINED
- WILDLIFE HABITAT CREATION ZONE (Refer to Landscape Architects Drawings ref: XXXX)
- PEDESTRIAN PAVEMENT - ASPHALT / BITMAC
- PEDESTRIAN PAVEMENT - NATURAL GRANITE AGGREGATE CONCRETE PAVING SLABS
- VEHICULAR PAVEMENT - ACCESS ROAD / PARKING
- EXISTING DENSE HEDGEROW VEGETATION
- EXISTING TREE
- PROPRIETARY CONCRETE BLOCK GEOSYNTHETHIC REINFORCED SEGMENTAL RETAINING WALL SYSTEM (Refer Detail X on Dwg XXXXX)
- TIMBER CRIBB RETAINING WALL STRUCTURE (Refer Detail X on Dwg XXXXX)
- 12M HIGH BALL CATCH NET (Refer Detail X on Dwg XXXXX)
- 1.2M HIGH OPEN MESH FENCING (Refer Detail X on Dwg XXXXX)
- 3.0M HIGH OPEN MESH FENCING (Refer Detail X on Dwg XXXXX)
- 4.2M HIGH OPEN MESH FENCING (Refer Detail X on Dwg XXXXX)
- 1.1M HIGH GALVANISED STEEL SAFETY RAILINGS (Refer Detail X on Dwg XXXXX)
- 1.2M HIGH TIMBER POST & RAIL FENCE (Refer Detail X on Dwg XXXXX)
- 2M HIGH TIMBER ACOUSTIC FENCE (Refer Detail X on Dwg XXXXX)
- 600MM HIGH TIMBER KNEE RAIL FENCE (Refer Detail X on Dwg XXXXX)
- PROPOSED ACCESSIBLE SHARED PEDESTRIAN AND CYCLE ROUTE LINKING DUBLIN ROAD AND KILNAVARRAGH LANE - Max Gradient < 1:21
- PROPOSED LOCATION OF FLOODLIGHT COLUMN (Refer Detail X on Dwg XXXXX)
- PROPOSED BOLLARD PATHWAY LIGHT
- PROPOSED LIGHTING COLUMN - SINGLE LUMINAIRE
- PROPOSED LIGHTING COLUMN - DOUBLE LUMINAIRE
- ELECTRIC VEHICLE (EV) CHARGE POINT
- PROPOSED DUCTING PROVIDED FOR FUTURE EV CHARGING POINT
- PROPOSEDF FIXED BOLLARD - STAINLESS STEEL WITH VISIBILITY BAND. REFER TO LANDSCAPE MATERIALITY SHEET CSC-MLA-XX-00-DR-L-3001
- PROPOSED REMOVABLE BOLLARD - STAINLESS STEEL WITH VISIBILITY BAND. REFER TO LANDSCAPE MATERIALITY SHEET CSC-MLA-XX-00-DR-L-3001
- PROPOSED LITTER BIN. REFER TO LANDSCAPE MATERIALITY SHEET CSC-MLA-XX-00-DR-L-3001
- PROPOSED EV CHARGING PARKING SPACE
- PROPOSED ACCESSIBLE PARKING SPACE
- 75.45 PROPOSED LEVELS

Proposed pedestrian and cycle access to accessible route linking Kilnavarragh Lane and Dublin Road

Controlled gated egress to facilitate emergency vehicle access only when sporting events are taking place

Proposed location of artificial badger sett

30 mm disconstruction zone to proposed new badger sett

Proposed self-closing pedestrian access gate connection to proposed walking trail from Kilnavarragh Lane

Proposed pedestrian access gate connection to proposed walking trail from Kilnavarragh Lane

Covered Cycle Parking - refer to Landscape Materiality Sheet CSC-MLA-XX-00-DR-L-3001

Automated Vehicle Barrier - refer to construction details drawing no A2156-302

Proposed pedestrian access to Royal School

Proposed location of Electric Car Charge Point with Sign - refer to signage detail drawing A2156-601

Proposed closure of Dublin Road junction to Park Lane to re-route traffic - pedestrian access only

Proposed replacement public ingress and egress structure for Kingspan Breffni stadium

Proposed new bridge structure over Cavan River

Proposed self-closing pedestrian access gate connection to proposed walking trail from Kilnavarragh Lane

Kilnavarragh Heights

Lurganboy

Playground

Royal School

Sports Ground

Breffni Park

Cavan River

Grave Yard

Green Lou

Pond

Pond

Pond

Sports Ground

Resource Centre

Joint Policing Centre

DUBLIN ROAD

BALLYNAGH ROAD

Killymooney

Killymooney

Park Lane

Cavan River

10kV

38kV

77.3

77.2

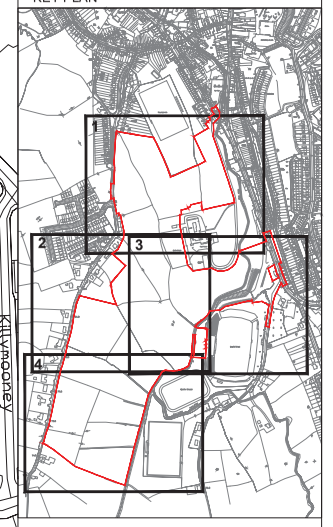
76.6

NOTES

1. All measurements shown are in metres, and all levels are to ordnance datum unless otherwise indicated
2. All Coordinates are to Irish Grid, unless otherwise noted.

N

KEY PLAN



Rev	Issue Date	Description	App

Status	PLANNING
Client	Cavan County Council
Project	Cavan Regional Sports Campus
Drawing	Proposed Site Plan Overall
Scale	1:1250 @ A0

McAdam ENHANCING LOCAL COMMUNITIES

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Drawn	moc	Checked	pa
Date	04/03/24	Date	04/03/24
Approved	moc		
Date	04/03/24		
Project Number	A2156	Drawing Number	100-10
Revision	-		

All dimensions are in metres. Figured dimensions to be taken in preference to scale dimensions. Dimensions to be checked on site. © 2021 McAdam Design Ltd.

APPENDIX B: Investigative Locations


BH01
BH02
BH03
BH04
BH05
BH06
BH07
BH08
BH09
BH10
BH11
BH12
BH13
BH14
BH17
BH18
BH19
BH20
BH21
BH22
BH23
BH24
BH25


DBH01
DBH02
DBH03
DBH04
DBH05
DBH06
DBH07


SBH01
SBH02
SBH03
SBH04
SBH05
SBH06
SBH07
SBH08
SBH09
SBH10
SBH12
SBH11
SBH15
SBH16
SBH13
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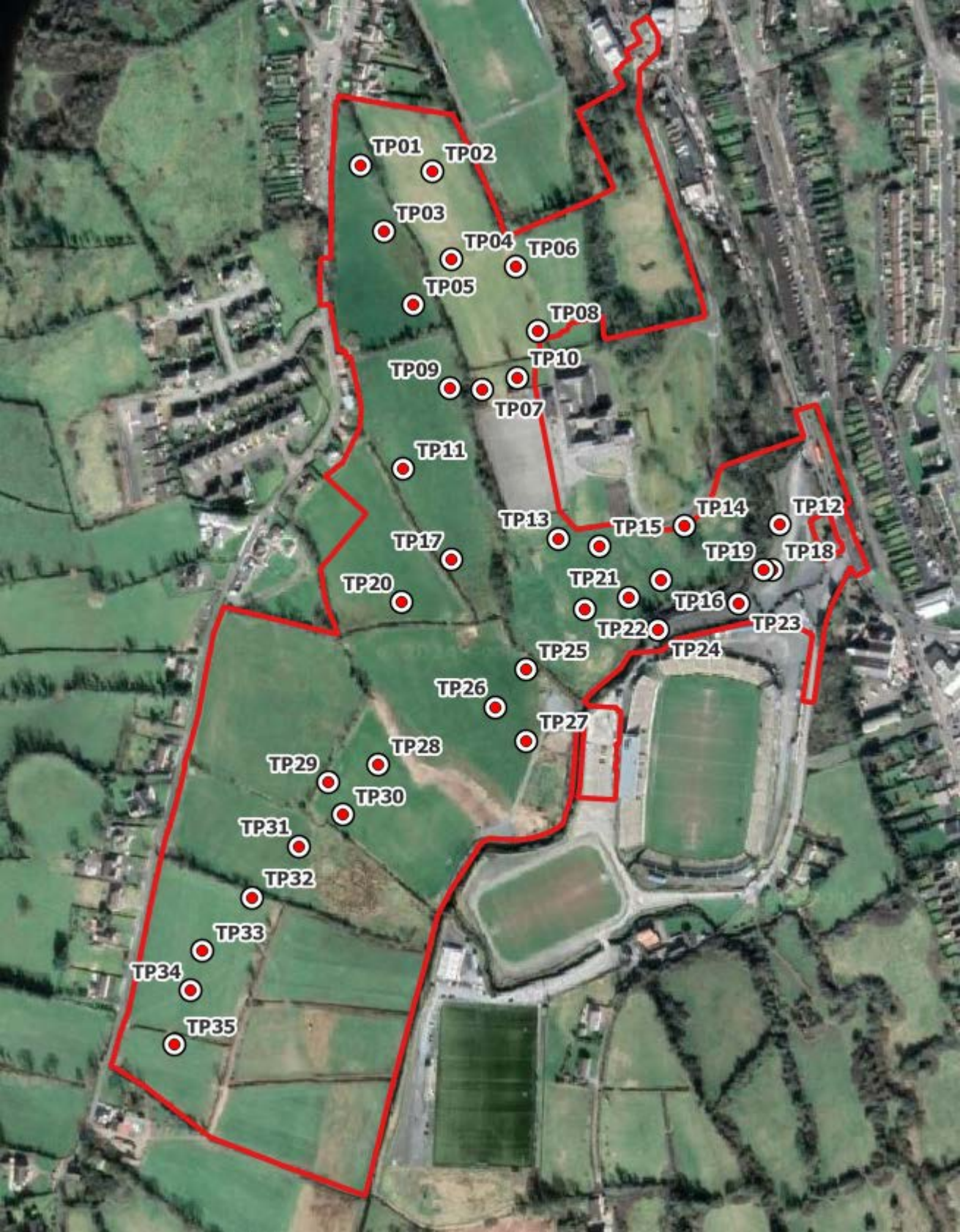
SBH17
SBH18
SBH19
SBH21
SBH20
SBH22
SBH23
SBH24
SBH25


TP01
TP02
TP03
TP04
TP06
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TP09
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TP14
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TP15
TP17
TP19
TP18
TP21
TP20
TP16
TP22
TP23
TP25
TP24
TP26
TP27
TP28
TP29
TP30
TP31
TP32
TP33
TP34
TP35

APPENDIX C: Surface Water Sampling Locations


SW5
SW4
SW3
SW6
SW2
SW1

APPENDIX D: Borehole Logs

Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH01
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 30/11/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30) 0.30	TOPSOIL		
0.50-1.00	B						Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=7			3,2/2,1,2,2					
1.50-2.00	B					(2.50)			
2.00-2.45	SPT N=9			2,2/2,3,2,2					
2.50-3.00	B								
						2.80			
3.00-3.45	SPT N=32			7,10/10,7,8,7			Very stiff brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.40-4.00	B					(1.40)			
4.00-4.15	SPT 50/0			20,25/50					
						4.20	Complete at 4.20m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH01

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Northwest Geotech		Site: Cavan Regional Sports Centre	Borehole Number: BH02
Machine : Dando 2000 Method : Cable Percussion	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 30/11/2023	Engineer: Mc Adam Design Sheet: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50-1.00	B								
1.20-1.65	SPT N=13			3,2/2,3,4,4					
1.50-2.00	B					(3.00)			
2.00-2.45	SPT N=12			6,5/4,3,2,3					
2.50-3.00	B								
3.00-3.45	SPT N=36			7,7/10,6,11,9		3.00	Very stiff grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.50-4.00	B								
4.00-4.45	SPT N=16			2,3/3,3,6,4					
4.50-5.00	B					(2.60)			
5.00-5.45	SPT N=49			7,6/9,12,13,15					
5.60-5.65	SPT 25*/30 50/20			25/50		5.60	Complete at 5.60m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH02

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH03
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 30/11/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B						Stiff becoming very stiff greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=29			5,8/4,4,7,14					
1.50-2.00	B								
2.00-2.45	SPT N=17			4,4/5,4,4,4					
2.50-3.00	B								
						(5.40)			
3.00-3.45	SPT N=22			5,5/5,6,6,5					
3.50-4.00	B								
4.00-4.45	SPT N=25			6,5/6,5,7,7					
4.50-5.00	B								
5.00-5.45	SPT N=43			10,8/9,11,13,10					
						5.60			
5.60-5.77	SPT 50/20			21,24/25,25			Complete at 5.60m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH03

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH04
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 30/11/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-1.00	B						Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=12			2,3/3,4,3,2					
1.50-2.00	B					(3.00)			
2.00-2.45	SPT N=10			10,9/3,3,2,2					
2.50-3.00	B								
3.00-3.45	SPT N=38			10,9/7,10,11,10		3.00	Stiff to very stiff grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.50-4.00	B								
4.00-4.45	SPT N=19			4,3/4,5,4,6					
4.50-5.00	B					(2.80)			
5.00-5.45	SPT N=41			3,5/5,10,11,15					
5.50-5.80	B								
5.80-5.89	SPT 25*/40 50/50			25/50		5.80	Complete at 5.80m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH04

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH07
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 04/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-1.00	B						Firm greyish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=10			1,2/2,3,3,2					▼1
1.50-2.00	B								
				Water strike(1) at 2.00m, rose to 1.30m in 20 mins.		(4.00)			▽1
2.00-2.45	SPT N=13			2,2/3,3,4,3					
2.50-3.00	B								
3.00-3.45	SPT N=13			3,4/3,3,4,3					
3.50-4.00	B								
4.00-4.45	SPT N=20			4,5/4,6,5,5		4.00	Stiff becoming very stiff greyish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
4.50-5.00	B								
5.00-5.45	SPT N=40			8,9/11,9,10,10		(1.80)			
5.50-5.80	B								
5.80-5.80	SPT 25*/0 50/0			25/50		5.80	Complete at 5.80m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH07

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH08
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 01/12/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B						Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=9			3,2/3,2,2,2					▼1
1.50-2.00	B								
				Water strike(1) at 2.00m, rose to 1.50m in 20 mins.		(3.80)			▽1
2.00-2.45	SPT N=13			2,3/3,2,4,4					
2.50-3.00	B								
3.00-3.45	SPT N=8			2,2/2,2,2,2					
3.50-4.00	B								
4.00-4.45	SPT N=20			2,3/4,5,4,7		4.00	Stiff becoming very stiff greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
4.50-5.00	B								
5.00-5.45	SPT N=42			10,8/10,10,11,11		(2.20)			
5.50-6.00	B								
6.00-6.21	SPT 75/60			14,17/25,50		6.20	Complete at 6.20m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH08

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH09
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 04/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-1.00	B					(2.40)	Soft to firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=6			4,2/2,1,1,2					
1.50-2.00	B								
2.00-2.35 2.00-2.40	SPT 50/200 B			4,4/6,5,25,14		2.40	Complete at 2.40m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH09

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH10
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 04/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50-1.00	B						Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=6			1,1/2,2,1,1					
1.50-2.00	B					(3.00)			
2.00-2.45	SPT N=9			2,4/2,2,3,2					
2.50-3.00	B								
3.00-3.45	SPT N=23			5,6/6,6,5,6		3.00	Stiff becoming very stiff brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.50-4.00	B								
4.00-4.45	SPT N=42			8,9/9,11,11,11		(1.80)			
4.80-4.80	SPT 25*/0 50/0			25/50		4.80	Complete at 4.80m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH10

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH12
Machine : Dandio 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 04/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50	B					(1.30)	Soft brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.15 1.20-1.82	B SPT 50/470			4,4/17,24,9		1.50	Complete at 1.50m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH12

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH13
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 28/11/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.50)	MADE GROUND: Bluish grey sandy silty angular fine to coarse GRAVEL with fragments of red brick. Sand is fine to coarse.		
0.50-1.00	B					0.50	MADE GROUND: Firm to stiff bluish grey slightly sandy gravelly silty CLAY with fragments of red brick and timber. Sand is fine to coarse. Gravel is angular to subangular fine to coarse.		
1.20-1.65	SPT N=11			1,2/1,4,3,3					
1.50-2.00	B								
2.00-2.45	SPT N=19			6,5/5,5,5,4					
2.50-3.00	B								
3.00-3.45	SPT N=21			2,2/4,4,3,10					
3.50-4.00	B								
4.00-4.45	SPT N=17			2,3/3,4,5,5					
4.50-5.00	B								
5.00-5.45	SPT N=18			3,3/4,4,4,6		(9.10)			
5.50-6.00	B								
6.00-6.45	SPT N=25			5,5/7,6,6,6					
6.50-7.00	B								
7.00-7.45	SPT N=8			1,1/1,1,4,2					
7.50-8.00	B								
8.00-8.45	SPT N=16			7,6/5,4,3,4					
8.50-9.00	B								
9.00-9.44	SPT 48/290			5,8/16,14,18					
9.60-9.60	SPT 25*/0 50/0			25/50		9.60	Complete at 9.60m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH13

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH14
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 07/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B					(1.00)	Firm greyish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=24			3,3/4,5,9,6		1.20			
1.50-2.00	B					(1.20)	Stiff grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.00-2.25	SPT 50/100			4,6/12,19,19		2.40	Complete at 2.40m		

Remarks
Terminated on possible bedrock/boulder
Chiselling from 2.40m to 2.40m for 1 hour.

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH14

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH15
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 07/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B					(0.60)	Firm brownish grey slightly sandy slightl gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
						0.80			
1.20-1.65	SPT N=16			3,4/4,4,3,5			Firm to stiff grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.50-2.00	B					(1.90)			
2.00-2.45	SPT N=14			4,3/4,3,3,4					
2.50-3.00	B								
						2.70 (0.30) 3.00	Very dense grey slightly silty subangular to subrounded fine to coarse GRAVEL.		
3.00-3.00	SPT 25*/0 50/0			25/50			Complete at 3.00m		

Remarks
Terminated on possible bedrock/boulder
Chiselling from 3.00m to 3.00m for 1 hour.

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH15

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH16
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 04/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B						Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
						(1.80)			
1.20-1.65	SPT N=14			2,2/3,5,3,3					
1.50-2.00	B								
						2.00			
2.00-2.45	SPT N=20			4,5/5,5,5,5			Stiff becoming very stiff greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.50-3.00	B								
3.00-3.45	SPT N=26			5,5/8,6,7,5					
3.50-4.00	B								
						(3.40)			
4.00-4.45	SPT N=36			8,9/9,9,9,9					
4.50-5.00	B								
5.00-5.41	SPT 50/260			11,12/13,14,14,9					
						5.40	Complete at 5.40m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH16

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH17
Machine : Dando Terrier **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 04/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	TOPSOIL		
						0.30	Soft brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	B					(0.80)			
1.00-1.50	B					1.10	Stiff becoming very stiff grey slightly sandy gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=21			4,4/3,4,6,8					
2.00-2.43 2.00-2.50	SPT 48/280 B			4,3/4,3,16,25		(1.80)			
2.90-2.90	SPT 25*/0 50/0			25/50		2.90	Complete at 2.90m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH17

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH18
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 28/11/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.50)	MADE GROUND: Grey silty sandy angular fine to coarse GRAVEL. Sand is fine to coarse.		
						0.50	MADE GROUND: Firm to stiff bluish grey slightly sandy gravelly silty CLAY with fragments of red brick and timber. Sand is fine to coarse. Gravel is subangular fine to coarse.		
1.00	B								
1.20-1.65	SPT N=21			1,2/4,6,5,6					
						(2.50)			
2.00-23.45	SPT N=11			1,1/2,3,3,3					
2.00	B								
						3.00			
3.00-3.45	SPT N=5			1,2/2,1,1,1			MADE GROUND: Soft bluish grey slightly sandy gravelly silty CLAY with fragments of red brick and timber. Sand is fine to coarse. Gravel is subangular fine to coarse.		
3.00	B								
4.00-4.45	SPT N=5			2,2/1,1,1,2					
4.00	B								
						(2.60)			
5.00-5.45	SPT N=7			3,2/2,2,1,2					
5.00	B								
						5.60			
6.00-6.45	SPT N=12			2,2/1,4,4,3			Firm bluish grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
6.00	B								
7.00-7.45	SPT N=12			8,4/2,4,3,3					
7.00	B					(3.20)			
8.00-8.45	SPT N=12			4,3/3,4,2,3					
8.00	B								
8.80-8.80	SPT 25*/0 50/0			25/50		8.80	Complete at 8.80m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH18

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH20
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 07/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B					(0.60) 0.80	Firm brownish grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=11			1,2/1,4,3,3		(2.10) 2.90	Firm becoming stiff grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.50-2.00	B								
2.00-2.45	SPT N=15			2,4/2,3,5,5					
2.50-2.90	B								
2.90-2.90	SPT 25*/0 50/0			25/50			Complete at 2.90m		

Remarks
Terminated on possible bedrock/boulder
Chiselling from 2.90m to 2.90m for 1 hour.

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH20

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH21
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 07/12/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	MADE GROUND: Gery angular fine to coarse GRAVEL.		
0.50-1.00	B					0.40	MADE GROUND: Firm becoming stiff slightly sandy gravelly silty CLAY with fragments of red brick. Sand is fine to coarse. Gravel is angular to subangular fine to coarse.		
1.20-1.65	SPT N=9			2,3/2,2,3,2					
1.50-2.00	B								
2.00-2.45	SPT N=8			3,2/1,2,2,3					
2.50-3.00	B								
						(4.80)			
3.00-3.45	SPT N=15			4,3/4,4,3,4					
3.50-4.00	B								
4.00-4.45	SPT N=17			5,5/4,4,5,4					
4.50-5.00	B								
5.00-5.20	SPT 50/50			1,1/50 Water strike(1) at 5.10m, no rise after 20 mins.		5.20	Grey LIMESTONE		▼1
6.00-6.02	SPT 50*/10 50/10			50/50					
7.00-7.02	SPT 50*/10 50/10			50/50					
						(4.80)			
8.00-8.02	SPT 50*/10 50/10			50/50					
9.00-9.05	SPT 50*/20 50/30			50/50					
10.00-10.00	50/0 SPT 50*/0			50/50		10.00			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH21

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH22
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 12/12/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	MADE GROUND: Grey angular fine to coarse GRAVEL.		
						0.40	MADE GROUND: Soft grey slightrly sandy gravelly clayey SILT with low cobble content and fragments of red brick and timber. Sand is fine to coarse. Gravel is subangular fine to coarse.		
1.00	B								
1.20-1.65	SPT N=13			1,3/4,4,3,2					
2.00-2.45 2.00	SPT N=12 B			15,8/4,4,2,2					
3.00-3.45 3.00	SPT N=8 B			2,2/2,2,2,2					
						(6.90)			
4.00-4.45 4.00	SPT N=10 B			4,6/4,2,2,2			4.00-6.00m: Becoming firm		
5.00-5.11 5.00	SPT B			6,9/11,21,18					
6.00-6.45 6.00	SPT N=27 B			6,0/11,4,7,5					
7.00-7.18 7.00	SPT 50/30 B			1,3/2,25,23					
						7.30	Complete at 7.30m		

Remarks
Cobbles may make SPT numbers higher
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH22

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: BH23
Machine : Dando 2000 Method : Cable Percussion	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 29/11/2023	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	MADE GROUND: Grey angular fine to coarse GRAVEL.		
0.50-1.00	B					0.40	MADE GROUND: Firm becoming stiff grey slightly sandy gravelly silty CLAY with fragments of red brick. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=10			2,2/2,3,2,3					
1.50-2.00	B					(2.80)			
2.00-2.45	SPT N=10			2,1/2,2,3,3					
2.50-3.00	B								
3.00-3.45	SPT N=15			3,4/4,3,4,4		3.20			
3.50-4.00	B						Stiff grey slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
4.00-4.45	SPT N=17			4,4/4,4,5,4					
4.50-5.00	B					(3.20)			
5.00-5.45	SPT N=18			4,5/4,5,4,5					
5.50-6.00	B								
6.00-6.38	SPT 23/230			3,4/4,5,6,8 Water strike(1) at 6.30m, no rise after 20 mins.		6.40			▼1
							Grey LIMESTONE		
7.00-7.02	SPT 50*/10 50/10			50/50					
8.00-8.00	SPT 50*/0 50/0			50/50		(3.60)			
9.00-9.06	SPT 50*/20 50/40			50/50					
10.00-10.00	50/0 SPT 50*/0			50/50		10.00			

Remarks
Terminated at scheduled depth

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH23

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH24
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 29/11/2023	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
0.50-1.00	B					(1.30)	Firm becoming stiff brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=14			2,2/3,3,4,4		1.50			
1.50-2.00	B						Stiff becoming very stiff brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.00-2.45	SPT N=25			2,3/4,5,6,10					
2.50-3.00	B								▼1
				Water strike(1) at 3.00m, rose to 2.50m in 20 mins.					▽1
3.00-3.45	SPT N=23			2,3/5,5,6,7		(3.90)			
3.50-4.00	B								
4.00-4.45	SPT N=40			9,10/9,12,10,9					
4.50-5.00	B								
5.00-5.33	SPT 50/180			12,14/17,21,12		5.40	Complete at 5.40m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No. 23-0092.BH24

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** BH25
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 29/11/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.20) 0.20	TOPSOIL		
						(0.30) 0.50	Soft to firm brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50-1.00	B						Soft to firm brownish grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.20-1.65	SPT N=9			2,2/1,3,2,3					
1.50-2.00	B								
2.00-2.45	SPT N=14			1,2/3,2,4,5					
2.50-3.00	B					(4.40)			▼1
				Water strike(1) at 3.00m, no rise after 20 mins.					
3.00-3.45	SPT N=5			1,2/1,2,1,1					
3.50-4.00	B								
4.00-4.45	SPT N=12			2,3/2,3,3,4					
4.50-4.90	B								
4.90-4.91	SPT 25*/10 50/0			25/50		4.90	Complete at 4.90m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.BH25

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP02
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	TOPSOIL		
					(0.50)	Grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					0.60	Grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(1.90)			
					2.50	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(1.00)			
					3.50	Complete at 3.50m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP02

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP05
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(1.00)	MADE GROUND: Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					1.00			
					(0.50)	MADE GROUND: Grey slightly sandy gravelly clayey SILT with fragments of red brick. Sand is fine to coarse. Gravel is subangular fine to coarse.		
					1.50			
			Water strike(1) at 3.30m.		(2.00)	Brownish grey slightly snady gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▽1
					3.50	Complete at 3.50m		

Plan

Remarks

Groundwater from surface run off and water trapped in made ground.

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP05

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Site	Trial Pit Number
Cavan Regional Sports Centre	TP06

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			Cavan County Council	23-0092
	Location	**Dates** 01/02/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
					(1.80)	Brownish grey slightly sandy gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					2.00			
					(1.00)	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse. (Possible weathered bedrock)		
					3.00	Complete at 3.00m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP06

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP07
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(1.00)	Brown silty CLAY.		
1.00-2.00	B				1.00	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse. (Possible weathered bedrock)		
					(2.50)			
					3.50	Complete at 3.50m		

Plan

Remarks

Water in pit from surface run off

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP07

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP08
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
					(0.40) 0.60	MADE GROUND: Grey slighty sandy slightly silty subangular to subrounded fine to coarse GRAVEL with low cobble content and metal scraps. Sand is fine to coarse.		
					(1.40) 2.00	Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(1.00) 3.00	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse. (Possible weathered bedrock)		
						Complete at 3.00m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP08

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Northwest Geotech			Site: Cavan Regional Sports Centre		Trial Pit Number: TP10
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council		Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design		Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
						Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(1.90)			
					2.10			
					(0.40)	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse. (Possible weathered bedrock)		
					2.50	Complete at 2.50m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP10

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Site	Trial Pit Number
Cavan Regional Sports Centre	TP14

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			Cavan County Council	23-0092
	Location	**Dates** 01/02/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30) 0.30	TOPSOIL		
0.50	B					Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	B				(0.90) 1.20			
						Brown slightly sandy gravelly clayey SILT with low cobble and boulder contnent. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.00	B				(1.10) 2.30			
2.50	B				(0.20) 2.50	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP14

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Northwest Geotech	**Site** Cavan Regional Sports Centre		**Trial Pit Number** TP15
Excavation Method Trial Pit	**Dimensions**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 01/02/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10 (0.20) 0.30	TOPSOIL		
0.50	B					MADE GROUND: Brown slightly sandy slightly gravelly CLAY with fragments of plastic and broken crockery. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	B				(1.40)	Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					1.70			
2.00	B					Grey slightly sandy slightly gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(1.30)			
3.00	B				3.00	Complete at 3.00m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP15

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP16
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30) 0.30	TOPSOIL		
0.50	B				(0.70)	Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	B				1.00 (0.70)	Grey slightly sandy gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.00	B				1.70 (1.30)	Grey slightly gravelly clayey SILT with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.00	B				3.00	Complete at 3.00m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP16

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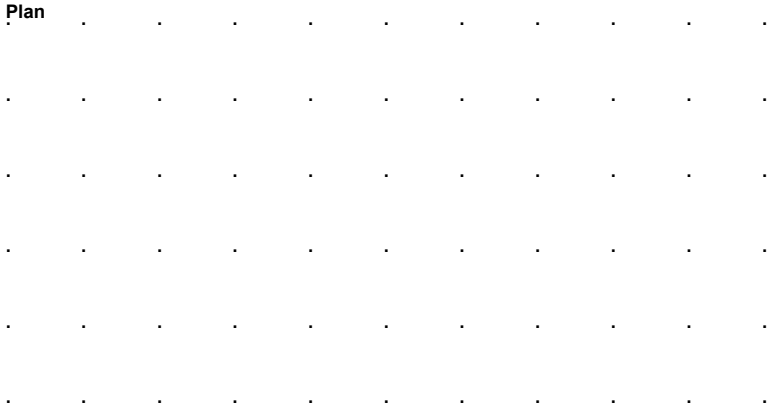
Northwest Geotech	**Site** Cavan Regional Sports Centre		**Trial Pit Number** TP18
Excavation Method Trial Pit	**Dimensions**	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 01/02/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
0.50	B				(1.00)	Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	B				1.20			
					(1.30)	Grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.00	B				2.50			
					(0.50)	Grey slightly sandy gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.00	B				3.00 (0.20) 3.20	Grey slightly sandy very gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
						Complete at 3.20m		

Plan



Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP18

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP21
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
0.50	B				(0.70)	Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	B				0.90	Grey slightly sandy gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
2.00	B				(1.60)			
					2.50	Grey slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
3.00	B				(0.50) 3.00	Complete at 3.00m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP21

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Northwest Geotech	Site: Cavan Regional Sports Centre		Trial Pit Number: TP29
Excavation Method: Trial Pit	Dimensions	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 01/02/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
					(0.90)	Brown clayey SILT.		
1.00-2.00	B				1.10 (0.50) 1.60	Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(0.40) 2.00	Brown slightly sandy very gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
					(1.50) 3.50	Grey slightly sandy gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
						Complete at 3.50m		

Plan

Remarks

No groundwater encountered

Scale (approx)	Logged By	Figure No.
1:50		23-0092.TP29

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH01
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 22/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES				(1.20)	Firm bluish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				1.40				
2.00	ES				(1.60)	Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
3.00	ES				3.00	Complete at 3.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH01

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Number** SBH02
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 22/01/2024	**Engineer** Mc Adam Design	**Sheet** 2/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
0.50	ES				(0.90)	Firm Bluish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	ES				1.10	Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▼1
2.00	ES		Water strike(1) at 2.00m, rose to 1.40m in 20 mins.		(2.10)			▽1
3.00	ES				3.20	Complete at 3.20m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH02

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH03
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 22/01/2024	Engineer: Mc Adam Design	Sheet: 3/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.20)				
2.00	ES		Water strike(1) at 2.00m, rose to 1.50m in 20 mins.					▼1 ▽1	
					2.50	Complete at 2.50m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH03

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH04
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 22/01/2024	Engineer: Mc Adam Design	Sheet: 4/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES				(1.10)	Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				1.30				
2.00	ES		Water strike(1) at 2.00m, rose to 1.90m in 20 mins.		(1.30)	Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▼1	
					2.60	Complete at 2.60m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No.
23-0092.SBH04

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Northwest Geotech	**Site** Cavan Regional Sports Centre		**Number** SBH05
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 22/01/2024	**Engineer** Mc Adam Design	**Sheet** 5/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.50	ES				(0.80)	MADE GROUND: Firm brown slightly sandy gravelly CLAY with fragments of red brick. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				0.80 (0.50)	Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
2.00	ES				1.30 (1.60)	Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					2.90	Complete at 2.90m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH05

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Northwest Geotech	**Site** Cavan Regional Sports Centre		**Number** SBH06
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 23/01/2024	**Engineer** Mc Adam Design	**Sheet** 6/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(1.40)				
					1.60	Firm brownish grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
2.00	ES		Water strike(1) at 2.00m, rose to 1.70m in 20 mins.		(0.80)				
					2.40	Complete at 2.40m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH06

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH07
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 23/01/2024	Engineer: Mc Adam Design	Sheet: 7/7/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.20)			▼1	
2.00	ES		Water strike(1) at 2.00m, rose to 1.20m in 20 mins.					▽1	
					2.50	Complete at 2.50m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH07

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH08
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 23/01/2024	Engineer: Mc Adam Design	Sheet: 8/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.30)				
2.00	ES				2.60	Complete at 2.60m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH08

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Northwest Geotech	**Site** Cavan Regional Sports Centre		**Number** SBH09
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 23/01/2024	**Engineer** Mc Adam Design	**Sheet** 9/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES								
					(2.70)				
2.00	ES								
3.00	ES				3.00	Complete at 3.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH09

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Northwest Geotech	**Site** Cavan Regional Sports Centre		**Number** SBH10
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 23/01/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(1.40)				
					1.70	Complete at 3.40m			
2.00	ES								
3.00	ES								

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH10

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH11
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 11/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.60)				
2.00	ES				2.80	Complete at 2.80m			

Remarks
Terminated on possible bedrock/boulde

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH11

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH12
Machine : Dando terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1 of 1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					0.10 (0.30) 0.40	MADE GROUND: Grey angular fine to medium GRAVEL. (Compacted)			
0.50	ES					MADE GROUND: Grey and brown silty sandy angular fine to coarse GRAVEL.			
1.00	ES					Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▼1	
2.00	ES		Water strike(1) at 2.00m, rose to 1.10m in 20 mins.		(3.60)			▽1	
3.00	ES								
4.00	ES				4.00	Complete at 4.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH12

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH13
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 13/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.50)	TOPSOIL			
0.50	ES				0.50	MADE GROUND: Firm greyish brown slightly sandy gravelly silty CLAY with fragments of red brick. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(1.80)				
2.00	ES				2.30	Complete at 2.30m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH13

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH14
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 14/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.30)				
2.00	ES								
					2.50	Complete at 2.50m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH14

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH15
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES				(1.10)	Firm Brown slightly snady slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				1.30				
2.00	ES				(1.50)	Firm grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					2.80	Complete at 2.80m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH15

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH19
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 25/01/2024	Engineer: Mc Adam Design	Sheet: 1 of 1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES								
					(2.80)				
2.00	ES							▼1	
3.00	ES		Water strike(1) at 3.00m, rose to 2.00m in 20 mins.		3.00	Complete at 3.00m		▽1	

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH19

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH22
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 26/01/2024	Engineer: Mc Adam Design	Sheet: 17/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES								
2.00	ES				(3.80)				
3.00	ES								
4.00	ES				4.00	Complete at 4.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH22

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH23
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 25/01/2024	Engineer: Mc Adam Design	Sheet: 18/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.50)				
2.00	ES								
					2.80	Complete at 2.80m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH23

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH24
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 25/01/2024	Engineer: Mc Adam Design	Sheet: 19/19

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
					(1.90)	Firm bluish Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					2.20	Complete at 2.20m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH24

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Number** SBH02
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 22/01/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	TOPSOIL		
0.50	ES				(0.90)	Firm Bluish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
1.00	ES				1.10	Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▼1
2.00	ES		Water strike(1) at 2.00m, rose to 1.40m in 20 mins.		(2.10)			▽1
3.00	ES				3.20	Complete at 3.20m		

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	**Logged By**
1:50	

Figure No.
23-0092.SBH02

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH03
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 22/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.20)				
2.00	ES		Water strike(1) at 2.00m, rose to 1.50m in 20 mins.					▼1 ▽1	
					2.50	Complete at 2.50m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH03

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH04
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 22/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES				(1.10)	Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				1.30				
2.00	ES		Water strike(1) at 2.00m, rose to 1.90m in 20 mins.		(1.30)	Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		1	
					2.60	Complete at 2.60m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No.
23-0092.SBH04

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH05
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 22/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.80)	MADE GROUND: Firm brown slightly sandy gravelly CLAY with fragments of red brick. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
0.50	ES				0.80				
1.00	ES				(0.50)	Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					1.30				
2.00	ES				(1.60)	Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					2.90				
						Complete at 2.90m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH05

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Northwest Geotech	**Site** Cavan Regional Sports Centre		**Number** SBH06
Machine : Dando Terrier **Method :** Drive-in Windowless Sampler	**Dimensions** 150mm to	**Ground Level (mOD)**	**Client** Cavan County Council	**Job Number** 23-0092
	Location	**Dates** 23/01/2024	**Engineer** Mc Adam Design	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(1.40)				
					1.60	Firm brownish grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▼1	
2.00	ES		Water strike(1) at 2.00m, rose to 1.70m in 20 mins.		(0.80)			▽1	
					2.40	Complete at 2.40m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH06

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH07
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 23/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.20)			▼1	
2.00	ES		Water strike(1) at 2.00m, rose to 1.20m in 20 mins.					▽1	
					2.50	Complete at 2.50m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH07

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH08
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 23/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.30)				
2.00	ES				2.60	Complete at 2.60m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH08

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH09
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 23/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES								
					(2.70)				
2.00	ES								
3.00	ES				3.00	Complete at 3.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH09

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH10
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 23/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(1.40)				
					1.70	Complete at 3.40m			
2.00	ES								
3.00	ES								

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH10

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH11
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.60)				
2.00	ES				2.80	Complete at 2.80m			

Remarks
Terminated on possible bedrock/boulde

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH11

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH12
Machine : Dando terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					0.10 (0.30) 0.40	MADE GROUND: Grey angular fine to medium GRAVEL. (Compacted)			
0.50	ES					MADE GROUND: Grey and brown silty sandy angular fine to coarse GRAVEL.			
1.00	ES					Firm greyish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		▼1	
2.00	ES		Water strike(1) at 2.00m, rose to 1.10m in 20 mins.		(3.60)			▽1	
3.00	ES								
4.00	ES				4.00	Complete at 4.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH12

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH13
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.50)	TOPSOIL			
0.50	ES				0.50	MADE GROUND: Firm greyish brown slightly sandy gravelly silty CLAY with fragments of red brick. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(1.80)				
2.00	ES				2.30	Complete at 2.30m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No.
23-0092.SBH13

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH14
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.30)				
2.00	ES								
					2.50	Complete at 2.50m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No.
23-0092.SBH14

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH15
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 24/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES				(1.10)	Firm Brown slightly snady slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				1.30				
2.00	ES				(1.50)	Firm grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					2.80	Complete at 2.80m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH15

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH19
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 25/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES								
					(2.80)				
2.00	ES							▼1	
3.00	ES		Water strike(1) at 3.00m, rose to 2.00m in 20 mins.		3.00	Complete at 3.00m		▽1	

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH19

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH22
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 26/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.20) 0.20	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES								
2.00	ES				(3.80)				
3.00	ES								
4.00	ES				4.00	Complete at 4.00m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH22

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH23
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD)	Client: Cavan County Council	Job Number: 23-0092
	Location	Dates: 25/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
0.50	ES					Firm bluish brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
1.00	ES				(2.50)				
2.00	ES				2.80	Complete at 2.80m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH23

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Northwest Geotech	Site: Cavan Regional Sports Centre		Number: SBH24
Machine : Dando Terrier Method : Drive-in Windowless Sampler	Dimensions: 150mm to	Ground Level (mOD):	Client: Cavan County Council	Job Number: 23-0092
	Location:	Dates: 25/01/2024	Engineer: Mc Adam Design	Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30) 0.30	TOPSOIL			
					(1.90)	Firm bluish Brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.			
					2.20	Complete at 2.20m			

Remarks
Terminated on possible bedrock/boulder

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.SBH24

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** DBH01
Machine : Comacchio 305 **Flush :** **Core Dia :** mm **Method :** Rotary Cored	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 12/12/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.30) 0.30	TOPSOIL		
								Brown slightly gravelly very sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
							(3.10)			
							3.40	Grey slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
							(11.60)			

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH01

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Northwest Geotech		Site: Cavan Regional Sports Centre	Borehole Number: DBH01
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter Location	Ground Level (mOD) Dates: 12/12/2023	Client: Cavan County Council Engineer: Mc Adam Design	Job Number: 23-0092 Sheet: 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH01

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** DBH02
Machine : Comacchio 305 **Flush :** **Core Dia :** mm **Method :** Rotary Cored	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 13/12/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.20) 0.20	TOPSOIL		
								Brown slightly gravelly very sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
							(5.40)			
							5.60	Grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH02

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH02
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 13/12/2023	Engineer: Mc Adam Design Sheet: 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(9.40)			
							15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH02

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH03
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 11/12/2023	Engineer: Mc Adam Design Sheet: 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.30) 0.30	TOPSOIL		
								Grey slightly sandy slightly gravelly silty CLAY with low boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.	
							(14.70)			

Remarks	Scale (approx): 1:50	Logged By
	Figure No.: 23-0092.DBH03	

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH03
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 11/12/2023	Engineer: Mc Adam Design Sheet: 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH03

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** DBH04
Machine : Comacchio 305 **Flush :** **Core Dia :** mm **Method :** Rotary Cored	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 12/12/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.30) 0.30	TOPSOIL		
								Grey slightly sandy slightly gravelly silty CLAY with low boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
							(14.70)			

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH04

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH04
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 12/12/2023	Engineer: Mc Adam Design Sheet: 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH04

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Northwest Geotech		Site: Cavan Regional Sports Centre	Borehole Number: DBH05
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter Location	Ground Level (mOD) Dates: 16/12/2023	Client: Cavan County Council Engineer: Mc Adam Design	Job Number: 23-0092 Sheet: 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.30) 0.30	TOPSOIL		
								Grey slightly sandy slightly gravelly silty CLAY with low boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.	
							(14.70)			

Remarks	Scale (approx): 1:50	Logged By
	Figure No.: 23-0092.DBH05	

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH05
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 16/12/2023	Engineer: Mc Adam Design Sheet: 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH05

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH06
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 05/12/2023	Engineer: Mc Adam Design Sheet: 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.20) 0.20	TOPSOIL		
								Grey slightly sandy slightly gravelly silty CLAY with low boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
							(7.20)			
							7.40	Grey LIMESTONE		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH06

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Northwest Geotech								**Site** Cavan Regional Sports Centre		**Borehole Number** DBH06	
Machine : Comacchio 305 **Flush :** **Core Dia :** mm **Method :** Rotary Cored			**Casing Diameter**			**Ground Level (mOD)**		**Client** Cavan County Council		**Job Number** 23-0092	
			Location			**Dates** 05/12/2023		**Engineer** Mc Adam Design		**Sheet** 2/2	
Depth (m)	**TCR (%)**	**SCR (%)**	**RQD (%)**	**FI**	**Field Records**	**Level (mOD)**	**Depth (m) (Thickness)**	**Description**		**Legend**	**Water**
							(7.60)				
							15.00	Complete at 15.00m			

Remarks	**Scale (approx)** 1:50	**Logged By**
	Figure No. 23-0092.DBH06	

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Northwest Geotech		**Site** Cavan Regional Sports Centre	**Borehole Number** DBH07
Machine : Comacchio 305 **Flush :** **Core Dia :** mm **Method :** Rotary Cored	**Casing Diameter** **Location**	**Ground Level (mOD)** **Dates** 06/12/2023	**Client** Cavan County Council **Engineer** Mc Adam Design	**Job Number** 23-0092 **Sheet** 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(0.30) 0.30	TOPSOIL		
							(4.20)	Grey silty CLAY.		
							4.50	Greyish brown slightly sandy slightly gravelly silty CLAY with low boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
							(10.50)			

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH07

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Northwest Geotech	Site: Cavan Regional Sports Centre		Borehole Number: DBH07
Machine : Comacchio 305 Flush : Core Dia : mm Method : Rotary Cored	Casing Diameter	Ground Level (mOD)	Client: Cavan County Council Job Number: 23-0092
	Location	Dates: 06/12/2023	Engineer: Mc Adam Design Sheet: 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							15.00	Complete at 15.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. 23-0092.DBH07

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APPENDIX E: Soil Laboratory Data

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-02411-1
Initial Date of Issue:	15-Feb-2024
Re-Issue Details:	
Client	Northwest Geotech
Client Address:	Unit 9 Northwest Business Complex Skeoge Industrial Estate Derry IRELAND
Contact(s):	Paul McNamara
Project	23-0092 Cavan RS

Quotation No.:		**Date Received:**	26-Jan-2024
Order No.:		**Date Instructed:**	26-Jan-2024
No. of Samples:	11		
Turnaround (Wkdays):	15	**Results Due:**	15-Feb-2024
Date Approved:	01-Feb-2024		

Approved By:

Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759084	1759085	1759086	1759088	1759089	1759090	1759091
Order No.:				Client Sample Ref.:		ES1	ES2	ES1	ES1	ES4	ES1	ES3
				Sample Location:		SBH01	SBH01	SBH02	SBH03	SBH03	SBH04	SBH04
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.5	1	0.5	0.5	3	0.5	2
				Date Sampled:		19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
ACM Type		U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	10	9.8	22	20	20	17	13
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture		N	2040		N/A	Sand	Clay	Clay	Clay	Clay	Clay	Sand
pH at 20C		M	2010		4.0	7.7	8.0	7.9	7.8	7.7	7.9	7.9
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	0.60	< 0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	5.8	3.5	9.2	5.5	4.3	7.6	5.7
Cadmium		M	2455	mg/kg	0.10	0.62	< 0.10	0.34	0.16	0.23	0.34	0.15
Chromium		M	2455	mg/kg	0.5	24	17	43	24	21	34	24
Copper		M	2455	mg/kg	0.50	17	12	20	14	11	23	18
Mercury		M	2455	mg/kg	0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	36	24	60	38	30	50	37
Lead		M	2455	mg/kg	0.50	12	8.5	21	12	9.7	18	14
Selenium		M	2455	mg/kg	0.25	0.62	0.55	1.2	0.74	0.58	0.79	0.58
Zinc		M	2455	mg/kg	0.50	58	36	77	51	46	74	58
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	3.2	2.3	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	4.3	2.9	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	5.4	3.2	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	5.0	5.7	3.8	6.1	4.3	< 3.0	3.3
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	6.6	6.2	6.0	19	13	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	19	13	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759084	1759085	1759086	1759088	1759089	1759090	1759091
Order No.:				Client Sample Ref.:		ES1	ES2	ES1	ES1	ES4	ES1	ES3
				Sample Location:		SBH01	SBH01	SBH02	SBH03	SBH03	SBH04	SBH04
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.5	1	0.5	0.5	3	0.5	2
				Date Sampled:		19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	2.1	2.1	2.1	2.5	< 2.0	3.2	2.5
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	3.5	2.1	< 2.0	< 2.0
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	1.0	< 1.0	1.0	1.4	1.2	1.4	< 1.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	< 5.0	< 5.0	< 5.0	6.1	< 5.0	< 5.0	< 5.0
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_Total_2D_#1	U	2690	mg/kg	10.00	11	< 10	< 10	25	17	< 10	< 10
Total EPH >C10-C40 MC	EH_Total_2D_#1	N	2690	mg/kg	10.00	12	< 10	< 10	26	18	< 10	< 10
Organic Matter		M	2625	%	0.40	0.63	0.51	0.62	0.73	1.1	0.48	0.88
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.22	< 0.10	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.44	< 0.10	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.57	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.24	< 0.10	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.19	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech			**Chemtest Job No.:**			24-02411	24-02411	24-02411	24-02411	24-02411	24-02411	24-02411
Quotation No.:			**Chemtest Sample ID.:**			1759084	1759085	1759086	1759088	1759089	1759090	1759091
Order No.:			Client Sample Ref.:			ES1	ES2	ES1	ES1	ES4	ES1	ES3
			Sample Location:			SBH01	SBH01	SBH02	SBH03	SBH03	SBH04	SBH04
			Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):			0.5	1	0.5	0.5	3	0.5	2
			Date Sampled:			19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024
			Asbestos Lab:			COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759084	1759085	1759086	1759088	1759089	1759090	1759091
Order No.:				Client Sample Ref.:		ES1	ES2	ES1	ES1	ES4	ES1	ES3
				Sample Location:		SBH01	SBH01	SBH02	SBH03	SBH03	SBH04	SBH04
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.5	1	0.5	0.5	3	0.5	2
				Date Sampled:		19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024	19-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
PCB 28		U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 52		U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 101		U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 118		U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 153		U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 138		U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 180		U	2815	mg/kg	0.010			< 0.010			< 0.010	
Total PCBs (7 Congeners)		U	2815	mg/kg	0.10			< 0.10			< 0.10	
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759092	1759093	1759095	1759096
Order No.:				Client Sample Ref.:		ES2	ES1	ES1	ES3
				Sample Location:		SBH06	SBH11	SBH15	SBH15
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1	0.5	0.5	2
				Date Sampled:		19-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type		U	2192		N/A	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	15	1.2	16	10
Soil Colour		N	2040		N/A	Brown	Grey	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones	Stones	Stones
Soil Texture		N	2040		N/A	Sand	Gravel	Sand	Clay
pH at 20C		M	2010		4.0	7.9	8.6	8.4	8.3
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	4.4	11	5.2	9.3
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10	0.26	0.35
Chromium		M	2455	mg/kg	0.5	23	56	22	34
Copper		M	2455	mg/kg	0.50	11	43	14	24
Mercury		M	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	25	100	32	50
Lead		M	2455	mg/kg	0.50	11	16	11	20
Selenium		M	2455	mg/kg	0.25	0.79	0.40	0.61	1.1
Zinc		M	2455	mg/kg	0.50	50	71	48	74
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	3.0	< 1.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	2.2	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	3.7	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	11	< 5.0	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	11	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759092	1759093	1759095	1759096
Order No.:				Client Sample Ref.:		ES2	ES1	ES1	ES3
				Sample Location:		SBH06	SBH11	SBH15	SBH15
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1	0.5	0.5	2
				Date Sampled:		19-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	4.5	5.3	3.1	3.2
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	1.3	< 1.0	< 1.0	< 1.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	6.2	5.8	< 5.0	< 5.0
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_Total_2D_#1	U	2690	mg/kg	10.00	17	< 10	< 10	< 10
Total EPH >C10-C40 MC	EH_Total_2D_#1	N	2690	mg/kg	10.00	18	< 10	< 10	< 10
Organic Matter		M	2625	%	0.40	0.79	1.2	0.70	0.45
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759092	1759093	1759095	1759096
Order No.:				Client Sample Ref.:		ES2	ES1	ES1	ES3
				Sample Location:		SBH06	SBH11	SBH15	SBH15
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1	0.5	0.5	2
				Date Sampled:		19-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02411	24-02411	24-02411	24-02411
Quotation No.:				**Chemtest Sample ID.:**		1759092	1759093	1759095	1759096
Order No.:				Client Sample Ref.:		ES2	ES1	ES1	ES3
				Sample Location:		SBH06	SBH11	SBH15	SBH15
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1	0.5	0.5	2
				Date Sampled:		19-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
PCB 28		U	2815	mg/kg	0.010	< 0.010	< 0.010		
PCB 52		U	2815	mg/kg	0.010	< 0.010	< 0.010		
PCB 101		U	2815	mg/kg	0.010	< 0.010	< 0.010		
PCB 118		U	2815	mg/kg	0.010	< 0.010	< 0.010		
PCB 153		U	2815	mg/kg	0.010	< 0.010	< 0.010		
PCB 138		U	2815	mg/kg	0.010	< 0.010	< 0.010		
PCB 180		U	2815	mg/kg	0.010	< 0.010	< 0.010		
Total PCBs (7 Congeners)		U	2815	mg/kg	0.10	< 0.10	< 0.10		
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

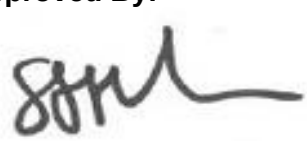
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-02939-1
Initial Date of Issue:	15-Feb-2024
Re-Issue Details:	
Client	Northwest Geotech
Client Address:	Unit 9 Northwest Business Complex Skeoge Industrial Estate Derry IRELAND
Contact(s):	Paul McNamara
Project	23-0092 Cavan RS

Quotation No.:		**Date Received:**	31-Jan-2024
Order No.:		**Date Instructed:**	31-Jan-2024
No. of Samples:	10		
Turnaround (Wkdays):	12	**Results Due:**	15-Feb-2024
Date Approved:	06-Feb-2024		

Approved By:



Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939	24-02939	24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760594	1760595	1760596	1760597	1760598	1760599	1760600
Order No.:				Client Sample Ref.:		ES1	ES1	ES2	ES3	ES1	ES2	ES1
				Sample Location:		SBH07	SBH08	SBH09	SBH10	SBH14	SBH14	SBH16
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.50	0.50	1.00	2.00	0.50	1.00	0.50
				Date Sampled:		19-Jan-2024	16-Jan-2024	16-Jan-2024	16-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
ACM Type		U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	14	20	23	22	20	21	23
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones and Roots	Stones	Stones	Stones and Roots	Stones and Roots	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay
pH at 20C		M	2010		4.0	8.3	7.6	7.8	7.6	7.6	7.5	7.5
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	< 0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	8.6	10	10	12	5.4	11	8.3
Cadmium		M	2455	mg/kg	0.10	0.54	0.72	0.75	0.83	0.14	0.46	0.53
Chromium		M	2455	mg/kg	0.5	35	42	55	55	35	44	42
Copper		M	2455	mg/kg	0.50	24	21	24	27	13	20	19
Mercury		M	2455	mg/kg	0.05	< 0.05	0.06	0.07	0.09	< 0.05	0.06	0.07
Nickel		M	2455	mg/kg	0.50	42	54	69	70	38	53	51
Lead		M	2455	mg/kg	0.50	19	22	24	26	14	19	20
Selenium		M	2455	mg/kg	0.25	1.2	1.3	1.6	1.5	0.94	1.3	1.1
Zinc		M	2455	mg/kg	0.50	79	80	98	110	61	82	80
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	[B] < 0.25	[B] < 0.25	[B] < 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	[B] < 2.0	[B] < 2.0	[B] 2.3	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	2.2	[B] < 1.0	[B] 2.1	[B] 3.6	< 1.0	4.9	1.8
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	[B] < 2.0	[B] < 2.0	[B] 3.0	< 2.0	4.6	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	3.1	[B] < 3.0	[B] < 3.0	[B] 5.3	< 3.0	7.5	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	[B] < 10	[B] < 10	[B] < 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	8.2	[B] < 5.0	[B] 7.1	[B] 14	< 5.0	19	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	[B] < 10	[B] < 10	[B] 14	< 10	19	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	[B] < 0.05	[B] < 0.05	[B] < 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	[B] < 0.25	[B] < 0.25	[B] < 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939	24-02939	24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760594	1760595	1760596	1760597	1760598	1760599	1760600
Order No.:				Client Sample Ref.:		ES1	ES1	ES2	ES3	ES1	ES2	ES1
				Sample Location:		SBH07	SBH08	SBH09	SBH10	SBH14	SBH14	SBH16
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.50	0.50	1.00	2.00	0.50	1.00	0.50
				Date Sampled:		19-Jan-2024	16-Jan-2024	16-Jan-2024	16-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	4.2	[B] 4.8	[B] 3.0	[B] 2.9	5.2	2.9	5.9
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	3.5	[B] 2.8	[B] 5.6	[B] 6.6	2.2	7.3	3.0
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	< 1.0	[B] < 1.0	[B] 1.2	[B] 1.1	< 1.0	1.2	< 1.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	7.8	[B] 7.6	[B] 8.5	[B] 9.5	7.4	10	8.8
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	[B] < 10	[B] < 10	[B] 11	< 10	11	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_Total_2D_#1	U	2690	mg/kg	10.00	16	[B] 10	[B] 16	[B] 24	< 10	29	14
Total EPH >C10-C40 MC	EH_Total_2D_#1	N	2690	mg/kg	10.00	16	[B] 10	[B] 17	[B] 25	< 10	30	14
Organic Matter		M	2625	%	0.40	0.98	0.47	0.69	0.56	0.96	0.58	0.55
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	[B] < 20	[B] < 20	[B] < 20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	[B] < 2.0	[B] < 2.0	[B] < 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	[B] < 50	[B] < 50	[B] < 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939	24-02939	24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760594	1760595	1760596	1760597	1760598	1760599	1760600
Order No.:				Client Sample Ref.:		ES1	ES1	ES2	ES3	ES1	ES2	ES1
				Sample Location:		SBH07	SBH08	SBH09	SBH10	SBH14	SBH14	SBH16
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.50	0.50	1.00	2.00	0.50	1.00	0.50
				Date Sampled:		19-Jan-2024	16-Jan-2024	16-Jan-2024	16-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	[B] < 2.0	[B] < 2.0	[B] < 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	[B] < 10	[B] < 10	[B] < 10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	[B] < 10	[B] < 10	[B] < 10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	[B] < 10	[B] < 10	[B] < 10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	[B] < 2.0	[B] < 2.0	[B] < 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	[B] < 10	[B] < 10	[B] < 10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	[B] < 5.0	[B] < 5.0	[B] < 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	[B] < 2.0	[B] < 2.0	[B] < 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] 5.3	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] 2.6	< 1.0	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	[B] < 50	[B] < 50	[B] < 50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939	24-02939	24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760594	1760595	1760596	1760597	1760598	1760599	1760600
Order No.:				Client Sample Ref.:		ES1	ES1	ES2	ES3	ES1	ES2	ES1
				Sample Location:		SBH07	SBH08	SBH09	SBH10	SBH14	SBH14	SBH16
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		0.50	0.50	1.00	2.00	0.50	1.00	0.50
				Date Sampled:		19-Jan-2024	16-Jan-2024	16-Jan-2024	16-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	[B] < 50	[B] < 50	[B] < 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	[B] < 2.0	[B] < 2.0	[B] < 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	[B] < 1.0	[B] < 1.0	[B] < 1.0	< 1.0	< 1.0	< 1.0
PCB 28		U	2815	mg/kg	0.010			< 0.010				
PCB 52		U	2815	mg/kg	0.010			< 0.010				
PCB 101		U	2815	mg/kg	0.010			< 0.010				
PCB 118		U	2815	mg/kg	0.010			< 0.010				
PCB 153		U	2815	mg/kg	0.010			< 0.010				
PCB 138		U	2815	mg/kg	0.010			< 0.010				
PCB 180		U	2815	mg/kg	0.010			< 0.010				
Total PCBs (7 Congeners)		U	2815	mg/kg	0.10			< 0.10				
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760601	1760602	1760603
Order No.:				Client Sample Ref.:		ES2	ES1	ES3
				Sample Location:		SBH17	SBH19	SBH19
				Sample Type:		SOIL	SOIL	SOIL
				Top Depth (m):		1.00	0.50	2.00
				Date Sampled:		23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
ACM Type		U	2192		N/A	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	24	24	11
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones and Roots	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH at 20C		M	2010		4.0	7.8	7.9	8.4
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	0.011
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	9.1	12	8.9
Cadmium		M	2455	mg/kg	0.10	0.49	0.73	0.64
Chromium		M	2455	mg/kg	0.5	42	45	39
Copper		M	2455	mg/kg	0.50	21	23	24
Mercury		M	2455	mg/kg	0.05	0.07	0.07	< 0.05
Nickel		M	2455	mg/kg	0.50	54	59	48
Lead		M	2455	mg/kg	0.50	20	22	22
Selenium		M	2455	mg/kg	0.25	1.3	1.3	1.5
Zinc		M	2455	mg/kg	0.50	77	85	110
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	2.3	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	8.1	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760601	1760602	1760603
Order No.:				Client Sample Ref.:		ES2	ES1	ES3
				Sample Location:		SBH17	SBH19	SBH19
				Sample Type:		SOIL	SOIL	SOIL
				Top Depth (m):		1.00	0.50	2.00
				Date Sampled:		23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	6.2	5.5	4.8
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	3.0	< 2.0	3.5
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	9.2	6.4	8.4
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_Total_2D_#1	U	2690	mg/kg	10.00	17	< 10	10
Total EPH >C10-C40 MC	EH_Total_2D_#1	N	2690	mg/kg	10.00	17	< 10	10
Organic Matter		M	2625	%	0.40	0.83	0.57	0.70
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760601	1760602	1760603
Order No.:				Client Sample Ref.:		ES2	ES1	ES3
				Sample Location:		SBH17	SBH19	SBH19
				Sample Type:		SOIL	SOIL	SOIL
				Top Depth (m):		1.00	0.50	2.00
				Date Sampled:		23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02939	24-02939	24-02939
Quotation No.:				**Chemtest Sample ID.:**		1760601	1760602	1760603
Order No.:				Client Sample Ref.:		ES2	ES1	ES3
				Sample Location:		SBH17	SBH19	SBH19
				Sample Type:		SOIL	SOIL	SOIL
				Top Depth (m):		1.00	0.50	2.00
				Date Sampled:		23-Jan-2024	23-Jan-2024	23-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
PCB 28		U	2815	mg/kg	0.010			
PCB 52		U	2815	mg/kg	0.010			
PCB 101		U	2815	mg/kg	0.010			
PCB 118		U	2815	mg/kg	0.010			
PCB 153		U	2815	mg/kg	0.010			
PCB 138		U	2815	mg/kg	0.010			
PCB 180		U	2815	mg/kg	0.010			
Total PCBs (7 Congeners)		U	2815	mg/kg	0.10			
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1760595	ES1		SBH08	16-Jan-2024	B	Amber Glass 250ml
1760595	ES1		SBH08	16-Jan-2024	B	Amber Glass 60ml
1760595	ES1		SBH08	16-Jan-2024	B	Plastic Tub 500g
1760596	ES2		SBH09	16-Jan-2024	B	Amber Glass 250ml
1760596	ES2		SBH09	16-Jan-2024	B	Amber Glass 60ml
1760596	ES2		SBH09	16-Jan-2024	B	Plastic Tub 500g
1760597	ES3		SBH10	16-Jan-2024	B	Amber Glass 250ml
1760597	ES3		SBH10	16-Jan-2024	B	Amber Glass 60ml
1760597	ES3		SBH10	16-Jan-2024	B	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

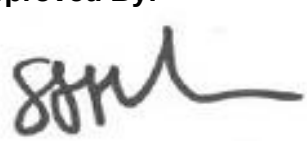
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-02760-1
Initial Date of Issue:	15-Feb-2024
Re-Issue Details:	
Client	Northwest Geotech
Client Address:	Unit 9 Northwest Business Complex Skeoge Industrial Estate Derry IRELAND
Contact(s):	Paul McNamara
Project	23-0092 Cavan RS

Quotation No.:		**Date Received:**	31-Jan-2024
Order No.:		**Date Instructed:**	31-Jan-2024
No. of Samples:	8		
Turnaround (Wkdays):	12	**Results Due:**	15-Feb-2024
Date Approved:	06-Feb-2024		

Approved By:



Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02760	24-02760	24-02760	24-02760	24-02760	24-02760	24-02760
Quotation No.:				**Chemtest Sample ID.:**		1760077	1760078	1760079	1760080	1760081	1760082	1760083
Order No.:				Client Sample Ref.:		ES2	ES1	ES2	ES1	ES3	ES2	ES2
				Sample Location:		SBH21	SBH22	SBH22	SBH23	SBH23	SBH24	SBH25
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.0	0.5	1.0	0.5	2.0	1.0	1.0
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
ACM Type		U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	11	27	13	21	17	12	12
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones and Roots	Stones	Stones and Roots	Stones	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay
pH at 20C		M	2010		4.0	8.7	7.3	8.4	7.1	8.5	8.4	8.4
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	0.60	0.80	0.60	< 0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	9.1	3.1	5.5	8.3	6.6	7.5	10
Cadmium		M	2455	mg/kg	0.10	0.37	0.30	0.20	0.24	0.28	0.26	0.31
Chromium		M	2455	mg/kg	0.5	41	37	25	41	43	34	35
Copper		M	2455	mg/kg	0.50	24	14	14	14	29	19	23
Mercury		M	2455	mg/kg	0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	52	30	31	48	58	45	49
Lead		M	2455	mg/kg	0.50	20	19	12	19	21	16	19
Selenium		M	2455	mg/kg	0.25	1.4	1.1	0.60	0.95	1.0	1.1	1.2
Zinc		M	2455	mg/kg	0.50	82	79	51	61	83	77	75
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	8.4	< 3.0	4.1	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	< 5.0	8.8	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02760	24-02760	24-02760	24-02760	24-02760	24-02760	24-02760
Quotation No.:				**Chemtest Sample ID.:**		1760077	1760078	1760079	1760080	1760081	1760082	1760083
Order No.:				Client Sample Ref.:		ES2	ES1	ES2	ES1	ES3	ES2	ES2
				Sample Location:		SBH21	SBH22	SBH22	SBH23	SBH23	SBH24	SBH25
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.0	0.5	1.0	0.5	2.0	1.0	1.0
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	2.3	< 2.0	< 2.0	< 2.0	2.2
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	7.9	< 2.0	< 2.0	< 2.0
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	< 5.0	< 5.0	< 5.0	8.5	< 5.0	< 5.0	< 5.0
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_Total_2D_#1	U	2690	mg/kg	10.00	< 10	12	< 10	13	< 10	< 10	< 10
Total EPH >C10-C40 MC	EH_Total_2D_#1	N	2690	mg/kg	10.00	< 10	12	< 10	13	< 10	< 10	< 10
Organic Matter		M	2625	%	0.40	0.85	1.9	3.2	0.98	1.1	1.4	1.1
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech			**Chemtest Job No.:**			24-02760	24-02760	24-02760	24-02760	24-02760	24-02760	24-02760
Quotation No.:			**Chemtest Sample ID.:**			1760077	1760078	1760079	1760080	1760081	1760082	1760083
Order No.:			Client Sample Ref.:			ES2	ES1	ES2	ES1	ES3	ES2	ES2
			Sample Location:			SBH21	SBH22	SBH22	SBH23	SBH23	SBH24	SBH25
			Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):			1.0	0.5	1.0	0.5	2.0	1.0	1.0
			Date Sampled:			25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
			Asbestos Lab:			COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02760	24-02760	24-02760	24-02760	24-02760	24-02760	24-02760
Quotation No.:				**Chemtest Sample ID.:**		1760077	1760078	1760079	1760080	1760081	1760082	1760083
Order No.:				Client Sample Ref.:		ES2	ES1	ES2	ES1	ES3	ES2	ES2
				Sample Location:		SBH21	SBH22	SBH22	SBH23	SBH23	SBH24	SBH25
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.0	0.5	1.0	0.5	2.0	1.0	1.0
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
				Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02760
Quotation No.:				**Chemtest Sample ID.:**		1760084
Order No.:				Client Sample Ref.:		ES3
				Sample Location:		SBH25
				Sample Type:		SOIL
				Top Depth (m):		1.9
				Date Sampled:		25-Jan-2024
				Asbestos Lab:		COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type		U	2192		N/A	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected
Moisture		N	2030	%	0.020	23
Soil Colour		N	2040		N/A	Brown
Other Material		N	2040		N/A	Stones
Soil Texture		N	2040		N/A	Clay
pH at 20C		M	2010		4.0	8.2
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	5.4
Cadmium		M	2455	mg/kg	0.10	0.39
Chromium		M	2455	mg/kg	0.5	37
Copper		M	2455	mg/kg	0.50	23
Mercury		M	2455	mg/kg	0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	50
Lead		M	2455	mg/kg	0.50	18
Selenium		M	2455	mg/kg	0.25	0.92
Zinc		M	2455	mg/kg	0.50	75
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02760
Quotation No.:				**Chemtest Sample ID.:**		1760084
Order No.:				Client Sample Ref.:		ES3
				Sample Location:		SBH25
				Sample Type:		SOIL
				Top Depth (m):		1.9
				Date Sampled:		25-Jan-2024
				Asbestos Lab:		COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	2.1
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	7.1
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	< 1.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	9.2
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50
Total EPH >C10-C35 MC	EH_Total_2D_#1	U	2690	mg/kg	10.00	< 10
Total EPH >C10-C40 MC	EH_Total_2D_#1	N	2690	mg/kg	10.00	< 10
Organic Matter		M	2625	%	0.40	1.0
Naphthalene		M	2700	mg/kg	0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0
Dichlorodifluoromethane		U	2760	µg/kg	1.0	< 1.0
Chloromethane		M	2760	µg/kg	1.0	< 1.0
Vinyl Chloride		M	2760	µg/kg	1.0	< 1.0
Bromomethane		M	2760	µg/kg	20	< 20
Chloroethane		U	2760	µg/kg	2.0	< 2.0
Trichlorofluoromethane		M	2760	µg/kg	1.0	< 1.0
1,1-Dichloroethene		M	2760	µg/kg	1.0	< 1.0
Dichloromethane		N	2760	µg/kg	50	< 50
Trans 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0
1,1-Dichloroethane		M	2760	µg/kg	1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech		**Chemtest Job No.:**				24-02760
Quotation No.:		**Chemtest Sample ID.:**				1760084
Order No.:		Client Sample Ref.:				ES3
		Sample Location:				SBH25
		Sample Type:				SOIL
		Top Depth (m):				1.9
		Date Sampled:				25-Jan-2024
		Asbestos Lab:				COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
cis 1,2-Dichloroethene		M	2760	µg/kg	1.0	< 1.0
Bromochloromethane		U	2760	µg/kg	5.0	< 5.0
Trichloromethane		M	2760	µg/kg	1.0	< 1.0
1,1,1-Trichloroethane		M	2760	µg/kg	1.0	< 1.0
Tetrachloromethane		M	2760	µg/kg	1.0	< 1.0
1,1-Dichloropropene		U	2760	µg/kg	1.0	< 1.0
Benzene		M	2760	µg/kg	1.0	< 1.0
1,2-Dichloroethane		M	2760	µg/kg	2.0	< 2.0
Trichloroethene		N	2760	µg/kg	1.0	< 1.0
1,2-Dichloropropane		M	2760	µg/kg	1.0	< 1.0
Dibromomethane		M	2760	µg/kg	1.0	< 1.0
Bromodichloromethane		M	2760	µg/kg	5.0	< 5.0
cis-1,3-Dichloropropene		N	2760	µg/kg	10	< 10
Toluene		M	2760	µg/kg	1.0	< 1.0
Trans-1,3-Dichloropropene		N	2760	µg/kg	10	< 10
1,1,2-Trichloroethane		M	2760	µg/kg	10	< 10
Tetrachloroethene		M	2760	µg/kg	1.0	< 1.0
1,3-Dichloropropane		U	2760	µg/kg	2.0	< 2.0
Dibromochloromethane		U	2760	µg/kg	10	< 10
1,2-Dibromoethane		M	2760	µg/kg	5.0	< 5.0
Chlorobenzene		M	2760	µg/kg	1.0	< 1.0
1,1,1,2-Tetrachloroethane		M	2760	µg/kg	2.0	< 2.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0
Styrene		M	2760	µg/kg	1.0	< 1.0
Tribromomethane		U	2760	µg/kg	1.0	< 1.0
Isopropylbenzene		M	2760	µg/kg	1.0	< 1.0
Bromobenzene		M	2760	µg/kg	1.0	< 1.0
1,2,3-Trichloropropane		N	2760	µg/kg	50	< 50
N-Propylbenzene		U	2760	µg/kg	1.0	< 1.0
2-Chlorotoluene		M	2760	µg/kg	1.0	< 1.0
1,3,5-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0
4-Chlorotoluene		U	2760	µg/kg	1.0	< 1.0
Tert-Butylbenzene		U	2760	µg/kg	1.0	< 1.0
1,2,4-Trimethylbenzene		M	2760	µg/kg	1.0	< 1.0
Sec-Butylbenzene		U	2760	µg/kg	1.0	< 1.0
1,3-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0

Results - Soil

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02760
Quotation No.:				**Chemtest Sample ID.:**		1760084
Order No.:				Client Sample Ref.:		ES3
				Sample Location:		SBH25
				Sample Type:		SOIL
				Top Depth (m):		1.9
				Date Sampled:		25-Jan-2024
				Asbestos Lab:		COVENTRY
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
4-Isopropyltoluene		U	2760	µg/kg	1.0	< 1.0
1,4-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0
N-Butylbenzene		U	2760	µg/kg	1.0	< 1.0
1,2-Dichlorobenzene		M	2760	µg/kg	1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	2760	µg/kg	50	< 50
1,2,4-Trichlorobenzene		M	2760	µg/kg	1.0	< 1.0
Hexachlorobutadiene		N	2760	µg/kg	1.0	< 1.0
1,2,3-Trichlorobenzene		U	2760	µg/kg	2.0	< 2.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

APPENDIX F: Groundwater Laboratory Results

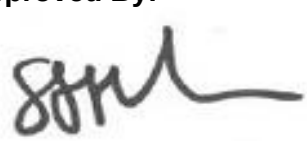
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-04393-1
Initial Date of Issue:	27-Feb-2024
Re-Issue Details:	
Client	Northwest Geotech
Client Address:	Unit 9 Northwest Business Complex Skeoge Industrial Estate Derry IRELAND
Contact(s):	Paul McNamara
Project	23-0092

Quotation No.:		**Date Received:**	14-Feb-2024
Order No.:		**Date Instructed:**	14-Feb-2024
No. of Samples:	10		
Turnaround (Wkdays):	10	**Results Due:**	27-Feb-2024
Date Approved:	21-Feb-2024		

Approved By:



Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393	24-04393	24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766356	1766357	1766358	1766359	1766360	1766361	1766362
				Sample Location:		SBH2	SBH7	SBH9	SBH12	SBH16	SBH19	SBH20
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
pH at 20C		U	1010		4.0	7.6	8.2	7.6	7.8	7.8	8.2	7.7
Electrical Conductivity at 25C		U	1020	µS/cm	1.0	770	360	830	560	570	710	700
Total Dissolved Solids		N	1020	mg/l	1.0	500	240	540	360	370	460	460
Colour		N	1050	Hazen unit	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Odour		N	1070		N/A	None	None	None	None	None	None	None
Biochemical Oxygen Demand		N	1090	mg O2/l	4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0
Chemical Oxygen Demand		U	1100	mg O2/l	10	12	< 10	15	12	< 10	15	16
Alkalinity (Total)		U	1220	mg/l	10	230	170	220	170	170	190	200
Chloride		U	1220	mg/l	1.0	16	25	16	16	14	28	20
Ammoniacal Nitrogen		U	1220	mg/l	0.050	0.25	0.19	0.17	0.23	0.24	0.28	0.44
Nitrite as NO2		U	1220	mg/l	0.020	0.083	0.054	0.078	0.13	0.11	0.093	0.042
Nitrate as NO3		U	1220	mg/l	0.50	< 0.50	1.8	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phosphate		U	1220	mg/l	0.200	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Sulphate		U	1220	mg/l	1.0	71	15	71	21	20	130	120
Cyanide (Total)		U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Cyanide (Free)		U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Calcium (Dissolved)		U	1455	mg/l	2.00	190	59	180	120	130	120	120
Potassium (Dissolved)		U	1455	mg/l	0.50	1.8	1.8	1.8	0.87	0.74	2.3	2.3
Magnesium (Dissolved)		U	1455	mg/l	0.20	14	8.5	14	7.5	7.6	5.9	6.0
Sodium (Dissolved)		U	1455	mg/l	1.50	11	5.3	11	9.3	8.7	43	44
Total Hardness as CaCO3		U	1270	mg/l	15	530	180	510	340	350	330	340
Arsenic (Dissolved)		U	1455	µg/l	0.20	0.55	0.27	0.43	0.28	< 0.20	0.31	0.31
Boron (Dissolved)		U	1455	µg/l	10.0	31	11	30	21	21	22	23
Barium (Dissolved)		U	1455	µg/l	5.00	160	24	150	68	72	86	84
Beryllium (Dissolved)		U	1455	µg/l	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium (Dissolved)		U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)		U	1455	µg/l	0.50	< 0.50	1.3	< 0.50	< 0.50	< 0.50	1.1	1.2
Copper (Dissolved)		U	1455	µg/l	0.50	2.5	1.9	2.2	2.4	1.1	3.7	3.6
Iron (Dissolved)		N	1455	µg/l	5.0	6.9	11	< 5.0	< 5.0	< 5.0	< 5.0	5.4
Manganese (Dissolved)		U	1455	µg/l	0.50	310	9.5	160	0.55	20	150	170
Nickel (Dissolved)		U	1455	µg/l	0.50	4.0	0.97	3.7	1.6	1.2	2.1	1.9
Lead (Dissolved)		U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Selenium (Dissolved)		U	1455	µg/l	0.50	0.71	< 0.50	0.54	< 0.50	< 0.50	0.57	< 0.50
Vanadium (Dissolved)		U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Zinc (Dissolved)		U	1455	µg/l	2.5	15	9.2	< 2.5	2.6	3.1	13	10
Mercury Low Level		U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Low-Level Chromium (Hexavalent)		U	1495	µg/l	0.10	< 0.10	0.83	< 0.10	< 0.10	< 0.10	0.31	0.38
Chromium (Trivalent) LL		N	1455	µg/l	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon		U	1610	mg/l	2.0	5.7	3.9	5.4	3.9	3.6	5.8	5.9

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393	24-04393	24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766356	1766357	1766358	1766359	1766360	1766361	1766362
				Sample Location:		SBH2	SBH7	SBH9	SBH12	SBH16	SBH19	SBH20
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
Aliphatic TPH >C5-C6	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	EH_2D_AL_#1	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	EH_2D_AR_#1	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	EH_2D_Total_#1	N	1675	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393	24-04393	24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766356	1766357	1766358	1766359	1766360	1766361	1766362
				Sample Location:		SBH2	SBH7	SBH9	SBH12	SBH16	SBH19	SBH20
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
cis-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Surfactants as MBAS		N	1770	mg/l	0.020	< 0.020	0.062	0.10	0.029	0.069	0.10	< 0.020
Naphthalene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393	24-04393	24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766356	1766357	1766358	1766359	1766360	1766361	1766362
				Sample Location:		SBH2	SBH7	SBH9	SBH12	SBH16	SBH19	SBH20
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
Phenanthrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		U	1800	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols		U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766363	1766364	1766365
				Sample Location:		SBH22	SBH24	SBH25
				Sample Type:		WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
pH at 20C		U	1010		4.0	10.2	7.8	9.5
Electrical Conductivity at 25C		U	1020	µS/cm	1.0	850	360	820
Total Dissolved Solids		N	1020	mg/l	1.0	550	230	530
Colour		N	1050	Hazen unit	1.0	170	< 1.0	16
Odour		N	1070		N/A	None	None	None
Biochemical Oxygen Demand		N	1090	mg O2/l	4.0	[B] 19	[B] < 4.0	[B] 16
Chemical Oxygen Demand		U	1100	mg O2/l	10	200	< 10	150
Alkalinity (Total)		U	1220	mg/l	10	220	160	220
Chloride		U	1220	mg/l	1.0	30	25	30
Ammoniacal Nitrogen		U	1220	mg/l	0.050	0.86	0.49	0.86
Nitrite as NO2		U	1220	mg/l	0.020	0.26	0.060	0.85
Nitrate as NO3		U	1220	mg/l	0.50	< 0.50	< 0.50	3.0
Phosphate		U	1220	mg/l	0.200	0.26	< 0.20	< 0.20
Sulphate		U	1220	mg/l	1.0	240	16	230
Cyanide (Total)		U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050
Cyanide (Free)		U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050
Calcium (Dissolved)		U	1455	mg/l	2.00	36	59	29
Potassium (Dissolved)		U	1455	mg/l	0.50	14	1.9	13
Magnesium (Dissolved)		U	1455	mg/l	0.20	< 0.20	8.3	0.28
Sodium (Dissolved)		U	1455	mg/l	1.50	160	5.9	160
Total Hardness as CaCO3		U	1270	mg/l	15	91	180	73
Arsenic (Dissolved)		U	1455	µg/l	0.20	5.1	0.29	4.7
Boron (Dissolved)		U	1455	µg/l	10.0	13	< 10	16
Barium (Dissolved)		U	1455	µg/l	5.00	17	24	13
Beryllium (Dissolved)		U	1455	µg/l	1.00	< 1.0	< 1.0	< 1.0
Cadmium (Dissolved)		U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)		U	1455	µg/l	0.50	7.4	1.5	5.0
Copper (Dissolved)		U	1455	µg/l	0.50	74	2.2	54
Iron (Dissolved)		N	1455	µg/l	5.0	300	16	280
Manganese (Dissolved)		U	1455	µg/l	0.50	6.9	4.4	7.2
Nickel (Dissolved)		U	1455	µg/l	0.50	37	1.0	29
Lead (Dissolved)		U	1455	µg/l	0.50	0.61	< 0.50	0.69
Selenium (Dissolved)		U	1455	µg/l	0.50	3.5	< 0.50	3.0
Vanadium (Dissolved)		U	1455	µg/l	0.50	49	< 0.50	40
Zinc (Dissolved)		U	1455	µg/l	2.5	23	9.7	23
Mercury Low Level		U	1460	µg/l	0.010	0.025	< 0.010	0.042
Low-Level Chromium (Hexavalent)		U	1495	µg/l	0.10	< 0.10	0.68	< 0.10
Chromium (Trivalent) LL		N	1455	µg/l	1.00	7.4	< 1.0	5.0
Total Organic Carbon		U	1610	mg/l	2.0	92	4.0	85

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766363	1766364	1766365
				Sample Location:		SBH22	SBH24	SBH25
				Sample Type:		WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
Aliphatic TPH >C5-C6	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	EH_2D_AL_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	EH_2D_AL_#1	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	EH_2D_AR_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	EH_2D_AR_#1	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	EH_2D_Total_#1	N	1675	µg/l	10	< 10	< 10	< 10
Dichlorodifluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Chloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Bromomethane		U	1760	µg/l	5	< 5	< 5	< 5
Chloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	1760	µg/l	5	< 5	< 5	< 5
Trichloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Benzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Dibromomethane		U	1760	µg/l	10	< 10	< 10	< 10
Bromodichloromethane		U	1760	µg/l	5	< 5	< 5	< 5

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766363	1766364	1766365
				Sample Location:		SBH22	SBH24	SBH25
				Sample Type:		WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
cis-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10	< 10
Toluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10	< 10
1,1,2-Trichloroethane		U	1760	µg/l	10	< 10	< 10	< 10
Tetrachloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	1760	µg/l	10	< 10	< 10	< 10
1,2-Dibromoethane		U	1760	µg/l	5	< 5	< 5	< 5
Chlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
o-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Styrene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	1760	µg/l	50	< 50	< 50	< 50
N-Propylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	1760	µg/l	50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Surfactants as MBAS		N	1770	mg/l	0.020	0.13	0.028	< 0.020
Naphthalene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Fluorene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: 23-0092

Client: Northwest Geotech				**Chemtest Job No.:**		24-04393	24-04393	24-04393
Quotation No.:				**Chemtest Sample ID.:**		1766363	1766364	1766365
				Sample Location:		SBH22	SBH24	SBH25
				Sample Type:		WATER	WATER	WATER
				Sample Sub Type:		Ground Water	Ground Water	Ground Water
				Date Sampled:		12-Feb-2024	12-Feb-2024	12-Feb-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
Phenanthrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Chrysene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		U	1800	µg/l	2.0	< 2.0	< 2.0	< 2.0
Total Phenols		U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1766356			SBH2	12-Feb-2024	B	Coloured Winchester 1000ml
1766356			SBH2	12-Feb-2024	B	EPA Vial 40ml
1766356			SBH2	12-Feb-2024	B	Plastic Bottle 1000ml
1766357			SBH7	12-Feb-2024	B	Coloured Winchester 1000ml
1766357			SBH7	12-Feb-2024	B	EPA Vial 40ml
1766357			SBH7	12-Feb-2024	B	Plastic Bottle 1000ml
1766358			SBH9	12-Feb-2024	B	Coloured Winchester 1000ml
1766358			SBH9	12-Feb-2024	B	EPA Vial 40ml
1766358			SBH9	12-Feb-2024	B	Plastic Bottle 1000ml
1766359			SBH12	12-Feb-2024	B	Coloured Winchester 1000ml
1766359			SBH12	12-Feb-2024	B	EPA Vial 40ml
1766359			SBH12	12-Feb-2024	B	Plastic Bottle 1000ml
1766360			SBH16	12-Feb-2024	B	Coloured Winchester 1000ml
1766360			SBH16	12-Feb-2024	B	EPA Vial 40ml
1766360			SBH16	12-Feb-2024	B	Plastic Bottle 1000ml
1766361			SBH19	12-Feb-2024	B	Coloured Winchester 1000ml
1766361			SBH19	12-Feb-2024	B	EPA Vial 40ml
1766361			SBH19	12-Feb-2024	B	Plastic Bottle 1000ml
1766362			SBH20	12-Feb-2024	B	Coloured Winchester 1000ml
1766362			SBH20	12-Feb-2024	B	EPA Vial 40ml
1766362			SBH20	12-Feb-2024	B	Plastic Bottle 1000ml

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1766363			SBH22	12-Feb-2024	B	Coloured Winchester 1000ml
1766363			SBH22	12-Feb-2024	B	EPA Vial 40ml
1766363			SBH22	12-Feb-2024	B	Plastic Bottle 1000ml
1766364			SBH24	12-Feb-2024	B	Coloured Winchester 1000ml
1766364			SBH24	12-Feb-2024	B	EPA Vial 40ml
1766364			SBH24	12-Feb-2024	B	Plastic Bottle 1000ml
1766365			SBH25	12-Feb-2024	B	Coloured Winchester 1000ml
1766365			SBH25	12-Feb-2024	B	EPA Vial 40ml
1766365			SBH25	12-Feb-2024	B	Plastic Bottle 1000ml

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
1010	pH Value of Waters	pH at 20°C	pH Meter	RE PW TE TS PL DW GW
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity at 25°C and Total Dissolved Solids (TDS) in Waters	Conductivity Meter	TE TS PL LE SW GW
1050	Colour	Colour	Spetctrophotometry	
1070	Odour	Odour	Olfactory examination	
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.	
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].	TE TS PL LE GW
1140	Calorific Value	Calorific Value	Bomb Calorimeter	
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.	RE PW PL LE DW GW
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.	RE PW PL SW DW GW
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.	GW
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).	RE PW PL SW DW GW
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.	PL GW
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.	GW
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation	PL SW GW
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection	
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.	PL GW
1770	MBAS	MBAS	Spectrophotometry	
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection	PL GW
1900	Phenols in Waters by GC-MS	Approximately 24 substituted Phenols, including Chlorophenols	Solvent extraction / GCMS detection	
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

APPENDIX G: Surface Water Laboratory Results

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-02930-1
Initial Date of Issue:	15-Feb-2024
Re-Issue Details:	
Client	Northwest Geotech
Client Address:	Unit 9 Northwest Business Complex Skeoge Industrial Estate Derry IRELAND
Contact(s):	Paul McNamara
Project	23-0092 Cavan RS

Quotation No.:		**Date Received:**	31-Jan-2024
Order No.:		**Date Instructed:**	31-Jan-2024
No. of Samples:	6		
Turnaround (Wkdays):	5	**Results Due:**	06-Feb-2024
Date Approved:	07-Feb-2024		

Approved By:

Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Water

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02930	24-02930	24-02930	24-02930	24-02930	24-02930
Quotation No.:				**Chemtest Sample ID.:**		1760536	1760537	1760538	1760539	1760540	1760541
				Sample Location:		SW1	SW2	SW3	SW4	SW5	SW6
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**						
pH at 20C		U	1010		4.0	7.8	7.7	7.7	7.8	8.1	8.0
Electrical Conductivity at 25C		U	1020	µS/cm	1.0	260	260	260	260	1100	550
Total Dissolved Solids		N	1020	mg/l	1.0	170	170	170	170	740	360
Colour		N	1050	Hazen unit	1.0	60	65	45	< 1.0	< 1.0	< 1.0
Odour		N	1070		N/A	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless
Biochemical Oxygen Demand		N	1090	mg O2/l	4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0
Chemical Oxygen Demand		U	1100	mg O2/l	10	[B] 23	[B] 22	[B] 21	[B] 21	[B] < 10	[B] 11
Alkalinity (Total)		U	1220	mg/l	10	77	67	77	69	220	240
Chloride		U	1220	mg/l	1.0	19	22	22	22	220	34
Ammoniacal Nitrogen		U	1220	mg/l	0.050	0.23	0.22	0.093	0.078	0.10	0.14
Nitrite as NO2		U	1220	mg/l	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Nitrate as NO3		U	1220	mg/l	0.50	3.1	3.9	3.7	3.8	14	2.6
Phosphate		U	1220	mg/l	0.200	0.34	0.59	0.31	0.33	0.22	0.38
Sulphate		U	1220	mg/l	1.0	9.6	11	11	11	30	15
Cyanide (Total)		U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Cyanide (Free)		U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Calcium (Dissolved)		U	1455	mg/l	2.00	38	32	31	32	130	94
Potassium (Dissolved)		U	1455	mg/l	0.50	4.5	3.9	3.8	3.8	2.2	2.6
Magnesium (Dissolved)		U	1455	mg/l	0.20	4.7	4.6	4.3	4.4	7.1	5.0
Sodium (Dissolved)		U	1455	mg/l	1.50	13	14	13	13	120	19
Total Hardness as CaCO3		U	1270	mg/l	15	110	100	94	99	350	260
Arsenic (Dissolved)		U	1455	µg/l	0.20	0.74	0.86	0.56	0.58	0.48	0.69
Boron (Dissolved)		U	1455	µg/l	10.0	26	17	13	12	22	15
Barium (Dissolved)		U	1455	µg/l	5.00	36	47	34	34	53	50
Beryllium (Dissolved)		U	1455	µg/l	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium (Dissolved)		U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)		U	1455	µg/l	0.50	0.78	1.2	0.62	0.84	5.9	< 0.50
Copper (Dissolved)		U	1455	µg/l	0.50	4.3	5.3	3.7	4.9	1.8	3.2
Iron (Dissolved)		N	1455	µg/l	5.0	360	1500	300	390	190	1500
Manganese (Dissolved)		U	1455	µg/l	0.50	53	360	36	45	140	250
Nickel (Dissolved)		U	1455	µg/l	0.50	3.2	3.4	2.5	2.6	1.2	2.7
Lead (Dissolved)		U	1455	µg/l	0.50	0.58	1.5	< 0.50	1.6	< 0.50	1.9
Selenium (Dissolved)		U	1455	µg/l	0.50	0.76	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Vanadium (Dissolved)		U	1455	µg/l	0.50	0.79	1.6	0.65	0.88	< 0.50	0.65
Zinc (Dissolved)		U	1455	µg/l	2.5	30	41	30	32	28	34
Mercury Low Level		U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Low-Level Chromium (Hexavalent)		U	1495	µg/l	0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10	[B] < 0.10
Chromium (Trivalent) LL		N	1455	µg/l	1.00	[B] < 1.0	[B] 1.2	[B] < 1.0	[B] < 1.0	[B] 5.9	[B] < 1.0

Results - Water

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02930	24-02930	24-02930	24-02930	24-02930	24-02930
Quotation No.:				**Chemtest Sample ID.:**		1760536	1760537	1760538	1760539	1760540	1760541
				Sample Location:		SW1	SW2	SW3	SW4	SW5	SW6
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**						
Total Organic Carbon		U	1610	mg/l	2.0	8.3	8.3	8.9	8.2	3.5	5.3
Aliphatic TPH >C5-C6	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	EH_AL_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	EH_AL_2D_#1	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	EH_AR_2D_#1	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	EH_AR_2D_#1	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	EH_Total_2D_#1	N	1675	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Water

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02930	24-02930	24-02930	24-02930	24-02930	24-02930
Quotation No.:				**Chemtest Sample ID.:**		1760536	1760537	1760538	1760539	1760540	1760541
				Sample Location:		SW1	SW2	SW3	SW4	SW5	SW6
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**						
Dibromomethane		U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene		N	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane		U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane		U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane		U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane		N	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane		U	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene		U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene		U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether		N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Surfactants as MBAS		N	1770	mg/l	0.020	0.13	0.099	0.39	0.13	0.27	0.27
Naphthalene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: 23-0092 Cavan RS

Client: Northwest Geotech				**Chemtest Job No.:**		24-02930	24-02930	24-02930	24-02930	24-02930	24-02930
Quotation No.:				**Chemtest Sample ID.:**		1760536	1760537	1760538	1760539	1760540	1760541
				Sample Location:		SW1	SW2	SW3	SW4	SW5	SW6
				Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
				Sample Sub Type:		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
				Date Sampled:		25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024	25-Jan-2024
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**						
Acenaphthylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		U	1800	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols		U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1760536			SW1	25-Jan-2024	B	Coloured Winchester 500ml
1760536			SW1	25-Jan-2024	B	EPA Vial 40ml
1760536			SW1	25-Jan-2024	B	Miscellaneous
1760537			SW2	25-Jan-2024	B	Coloured Winchester 500ml
1760537			SW2	25-Jan-2024	B	EPA Vial 40ml
1760537			SW2	25-Jan-2024	B	Miscellaneous
1760538			SW3	25-Jan-2024	B	Coloured Winchester 500ml
1760538			SW3	25-Jan-2024	B	EPA Vial 40ml
1760538			SW3	25-Jan-2024	B	Miscellaneous
1760539			SW4	25-Jan-2024	B	Coloured Winchester 500ml
1760539			SW4	25-Jan-2024	B	EPA Vial 40ml
1760539			SW4	25-Jan-2024	B	Miscellaneous
1760540			SW5	25-Jan-2024	B	Coloured Winchester 500ml
1760540			SW5	25-Jan-2024	B	EPA Vial 40ml
1760540			SW5	25-Jan-2024	B	Miscellaneous
1760541			SW6	25-Jan-2024	B	Coloured Winchester 500ml
1760541			SW6	25-Jan-2024	B	EPA Vial 40ml
1760541			SW6	25-Jan-2024	B	Miscellaneous

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
1010	pH Value of Waters	pH at 20°C	pH Meter	RE PW TE TS PL DW GW
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity at 25°C and Total Dissolved Solids (TDS) in Waters	Conductivity Meter	TE TS PL LE SW GW
1050	Colour	Colour	Spetctrophotometry	
1070	Odour	Odour	Olfactory examination	
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.	
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].	TE TS PL LE GW
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.	RE PW PL LE DW GW
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.	RE PW PL SW DW GW
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.	GW
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).	RE PW PL SW DW GW
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.	PL GW
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.	
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.	GW
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation	PL SW GW
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection	
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.	PL GW
1770	MBAS	MBAS	Spectrophotometry	
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection	PL GW
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix H: Ground Gas Summary

16/02/2024	INITIAL FLOW	STEADY FLOW	CH_4	CO_2 Initial	CO_2 steady	O_2	% LEL	ATM PRESSURE	BOREHOLE PRESSURE	DEPTH TO WATER
	l/h	*l/h*	*%vol*	*%vol*	*%vol*	*%*	*%*	*mb*	*mb*	*m*
SBH01	0	0.3	0.1	0	0	21.1	0.1	1012	1008	0
SBH02	0	0.3	0.1	0	0	21.2	0.1	1012	1008	0
SBH03	0	0.3	0.1	0	0	21	0.1	1012	1008	0.2
SBH04	0	0.3	0.1	0	0	21.1	0.1	1012	1008	0.7
SBH05	0	0.3	0.1	0	0	21.1	0.1	1012	1009	0.41
SBH06	0	0.3	0.1	0	0	21	0.1	1012	1008	0
SBH07	0	0.3	0.1	0	0	21.1	0.1	1012	1008	0.3
SBH08	0	0.3	0.1	0	0	21	0.1	1012	1008	0.33
SBH09	0	0.3	0.1	0	0	21.3	0.1	1012	1008	0.53
SBH10	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0.72
SBH11	0	0.2	0.1	0	0	21.2	0.1	1012	1008	dry
SBH12	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0.6
SBH13	0	0.2	0.1	0	0	21.2	0.1	1012	1008	0.9
SBH14	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0
SBH15	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0.81
SBH16	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0.4
SBH17	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0.75
SBH18	0	0.2	0.1	0	0	21.3	0.1	1012	1008	dry
SBH19	0	0.3	0.1	0	0	21.1	0.1	1012	1008	0.35
SBH20	0	0.2	0.1	0	0	21.3	0.1	1012	1008	0.93
SBH21	0	0.3	0.1	0	0	21	0.1	1012	1009	1.2
SBH22	0	0.3	0.1	0	0	21	0.1	1012	1008	1.55
SBH23	0	0.3	0.1	0	0	21	0.1	1012	1008	0.2
SBH24	0	0.3	0.1	0	0	21.1	0.1	1012	1008	0.2
SBH25	0	0.3	0.1	0	0	21	0.1	1012	1008	0.2

Weather: Overcast with light wind

Atmospheric Trend: 1012mb and Rising

20.02.2024	INITIAL FLOW	STEADY FLOW	CH_4	CO_2 Initial	CO_2 steady	O_2	% LEL	ATM PRESSURE	BOREHOLE PRESSURE	DEPTH TO WATER
	l/h	*l/h*	*%vol*	*%vol*	*%vol*	*%*	*%*	*mb*	*mb*	*m*
SBH01	0	0.2	0.1	0	0	21.2	0.1	1016	1012	0
SBH02	0	0.3	0.1	0	0	21.3	0.1	1016	1012	0
SBH03	0	0.3	0.1	0	0	21	0.1	1016	1012	0.28
SBH04	0	0.3	o.1	0	0	21.2	0.1	1016	1012	0.81
SBH05	0	0.2	0.1	0	0	21.2	0.1	1016	1012	0.35
SBH06	0	0.3	0.1	0	0	21.1	0.1	1016	1012	0
SBH07	0	0.4	0.1	0	0	21.1	0.1	1016	1012	0.34
SBH08	0	0.3	0.1	0	0	21.2	0.1	1016	1012	0.28
SBH09	0	0.2	0.1	0	0	21.3	0.1	1016	1012	0.61
SBH10	0	0.2	0.1	0	0	21.3	0.1	1016	1012	0.7
SBH11	0	0.3	0.1	0	0	21.2	0.1	1016	1012	DRY
SBH12	0	0.3	0.1	0	0	21.2	0.1	1016	1012	0.63
SBH13	0	0.3	0.1	0	0	21.2	0.1	1016	1012	0.82
SBH14	0	0.3	0.1	0	0	21.3	0.1	1016	1012	0
SBH15	0	0.3	0.1	0	0	21.2	0.1	1016	1012	0.74
SBH16	0	0.3	0.1	0	0	21.1	0.1	1016	1012	0.38
SBH17	0	0.2	0.1	0	0	21.1	0.1	1016	1012	0.7
SBH18	0	0.2	0.1	0	0	21.3	0.1	1016	1012	DRY
SBH19	0	0.2	0.1	0	0	21.2	0.1	1016	1012	0.38
SBH20	0	0.2	0.1	0	0	21.2	0.1	1016	1012	1.01
SBH21	0	0.2	0.1	0	0	21.2	0.1	1016	1012	1.13
SBH22	0	0.3	0.1	0	0	21.2	0.1	1016	1012	1.45
SBH23	0	0.3	0.1	0	0	21.2	0.1	1016	1012	0.23
SBH24	0	0.2	0.1	0	0	21	0.1	1016	1012	0.18
SBH25	0	0.3	0.1	0	0	21.3	0.1	1016	1012	0.24

Weather: Overcast with light rain

Atmospheric Trend: 1016mb and falling

26.02.2024	INITIAL FLOW	STEADY FLOW	CH_4	CO_2 Initial	CO_2 steady	O_2	% LEL	ATM PRESSURE	BOREHOLE PRESSURE	DEPTH TO WATER
	l/h	*l/h*	*%vol*	*%vol*	*%vol*	*%*	*%*	*mb*	*mb*	*m*
SBH01	0	0.2	0.1	0	0	21.2	0.1	1021	1017	0
SBH02	0	0.3	0.1	0	0	21.2	0.1	1021	1017	0
SBH03	0	0.3	0.1	0	0	21.3	0.1	1021	1017	0.32
SBH04	0	0.3	0.1	0	0	21.3	0.1	1021	1017	0.78
SBH05	0	0.3	0.1	0	0	21.1	0.1	1021	1017	0.33
SBH06	0	0.2	0.1	0	0	21.2	0.1	1021	1017	0
SBH07	0	0.3	0.1	0	0	21.2	0.1	1021	1017	0.32
SBH08	0	0.3	0.1	0	0	21.2	0.1	1021	1017	0.25
SBH09	0	0.2	0.1	0	0	21.3	0.1	1021	1017	0.6
SBH10	0	0.2	0.1	0	0	21.2	0.1	1021	1017	0.71
SBH11	0	0.3	0.1	0	0	21.2	0.1	1021	1017	DRY
SBH12	0	0.3	0.1	0	0	21.3	0.1	1021	1017	0.68
SBH13	0	0.3	0.1	0	0	21.2	0.1	1021	1017	0.74
SBH14	0	0.2	0.1	0	0	21.3	0.1	1021	1017	0
SBH15	0	0.3	0.1	0	0	21.2	0.1	1021	1017	0.71
SBH16	0	0.3	0.1	0	0	21.1	0.1	1021	1017	0.42
SBH17	0	0.3	0.1	0	0	21.1	0.1	1021	1017	0.64
SBH18	0	0.3	0.1	0	0	21.2	0.1	1021	1017	DRY
SBH19	0	0.3	0.1	0	0	21.1	0.1	1021	1017	0.34
SBH20	0	0.2	0.1	0	0	21.1	0.1	1021	1017	1.09
SBH21	0	0.2	0.1	0	0	21	0.1	1021	1017	1.17
SBH22	0	0.3	0.1	0	0	21	0.1	1021	1017	1.42
SBH23	0	0.3	0.1	0	0	21.2	0.1	1021	1017	0.21
SBH24	0	0.3	0.1	0	0	21.1	0.1	1021	1017	0.23
SBH25	0	0.3	0.1	0	0	21.3	0.1	1021	1017	0.21

Weather: Overcast

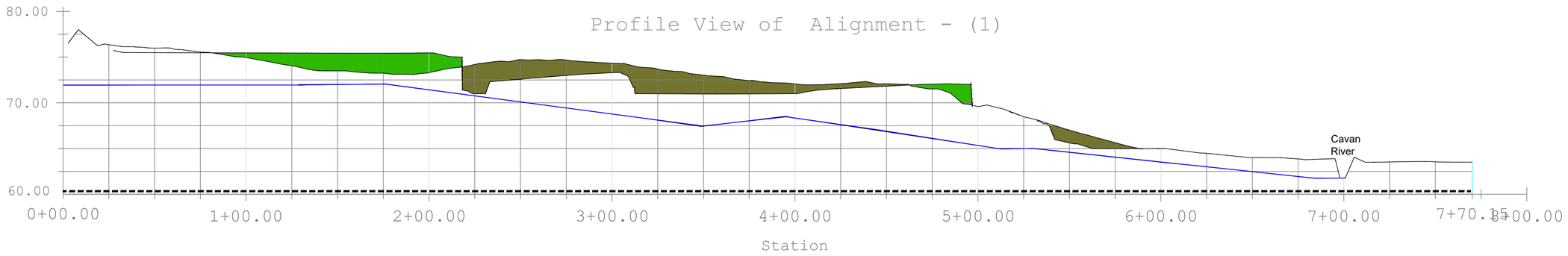
Atmospheric Trend: 1021mb and rising

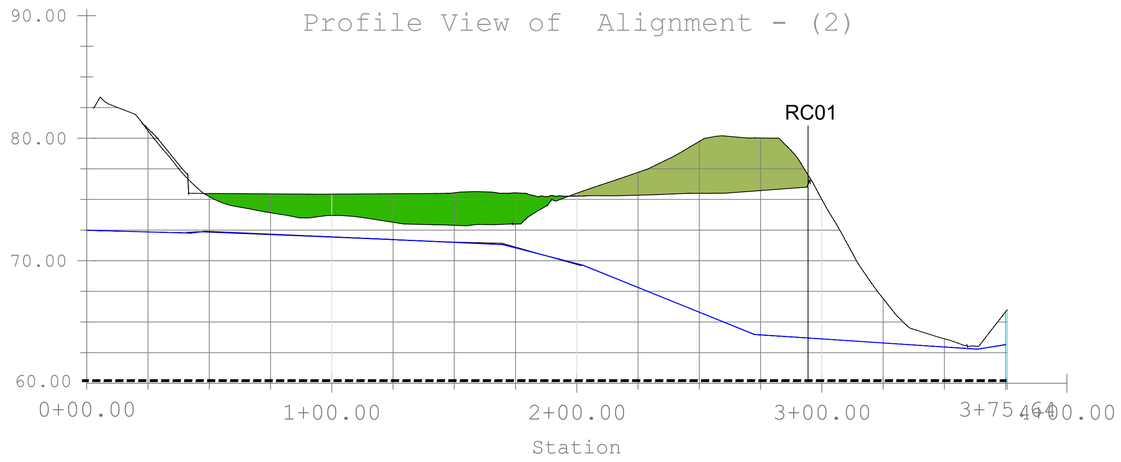
01.03.2024	INITIAL FLOW	STEADY FLOW	CH_4	CO_2 Initial	CO_2 steady	O_2	% LEL	ATM PRESSURE	BOREHOLE PRESSURE	DEPTH TO WATER
	l/h	*l/h*	*%vol*	*%vol*	*%vol*	*%*	*%*	*mb*	*mb*	*m*
SBH01	0	0.2	0.1	0	0	21	0.1	988	990	0
SBH02	0	0.3	0.1	0	0	21.1	0.1	988	990	0
SBH03	0	0.2	0.1	0	0	21	0.1	988	990	0.22
SBH04	0	0.3	0.1	0	0	21	0.1	988	990	0.75
SBH05	0	0.2	0.1	0	0	21.1	0.1	988	990	0.43
SBH06	0	0.2	0.1	0	0	21.1	0.1	988	990	0
SBH07	0	0.3	0.1	0	0	21.1	0.1	988	990	0.28
SBH08	0	0.3	0.1	0	0	21	0.1	988	990	0.31
SBH09	0	0.2	0.1	0	0	21	0.1	988	991	0.49
SBH10	0	0.2	0.1	0	0	21.1	0.1	988	990	0.75
SBH11	0	0.3	0.1	0	0	21.1	0.1	988	991	Dry
SBH12	0	0.2	0.1	0	0	21	0.1	988	990	0.61
SBH13	0	0.2	0.1	0	0	21.1	0.1	988	990	1
SBH14	0	0.3	0.1	0	0	21.1	0.1	988	991	0
SBH15	0	0.3	0.1	0	0	21.1	0.1	988	990	0.76
SBH16	0	0.2	0.1	0	0	21.1	0.1	988	992	0.34
SBH17	0	0.2	0.1	0	0	21	0.1	988	990	0.68
SBH18	0	0.3	0.1	0	0	21.1	0.1	988	992	Dry
SBH19	0	0.3	0.1	0	0	21	0.1	988	991	0.31
SBH20	0	0.2	0.1	0	0	21.1	0.1	988	990	0.9
SBH21	0	0.2	0.1	0	0	21.1	0.1	988	990	1.21
SBH22	0	0.2	0.1	0	0	21.2	0.1	988	990	1.46
SBH23	0	0.3	0.1	0	0	21.3	0.1	988	990	0.27
SBH24	0	0.3	0.1	0	0	21	0.1	988	991	0.31
SBH25	0	0.2	0.1	0	0	21.1	0.1	988	992	0.24

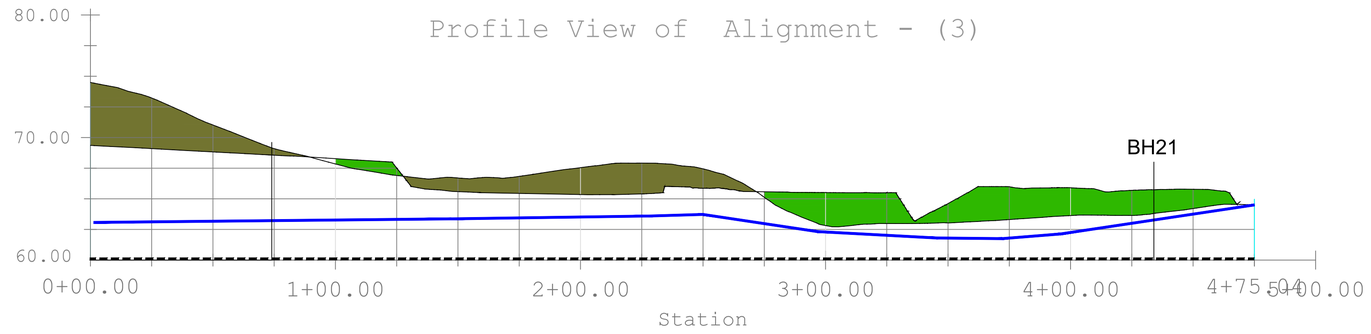
Weather: Overcast

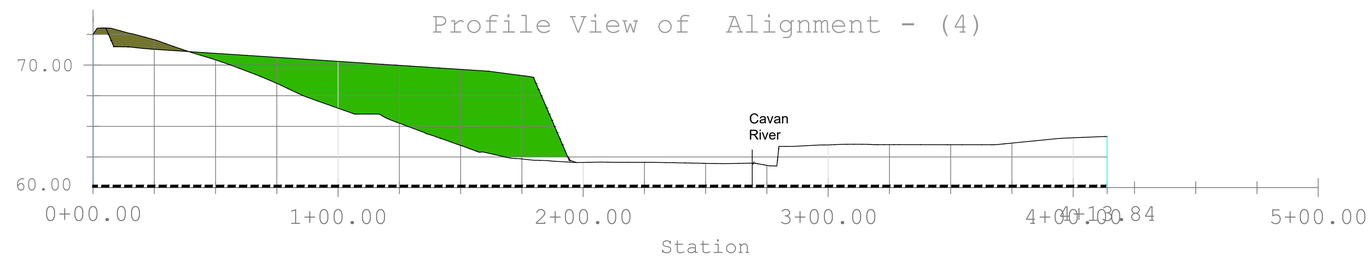
Atmospheric Trend: 988mb and rising

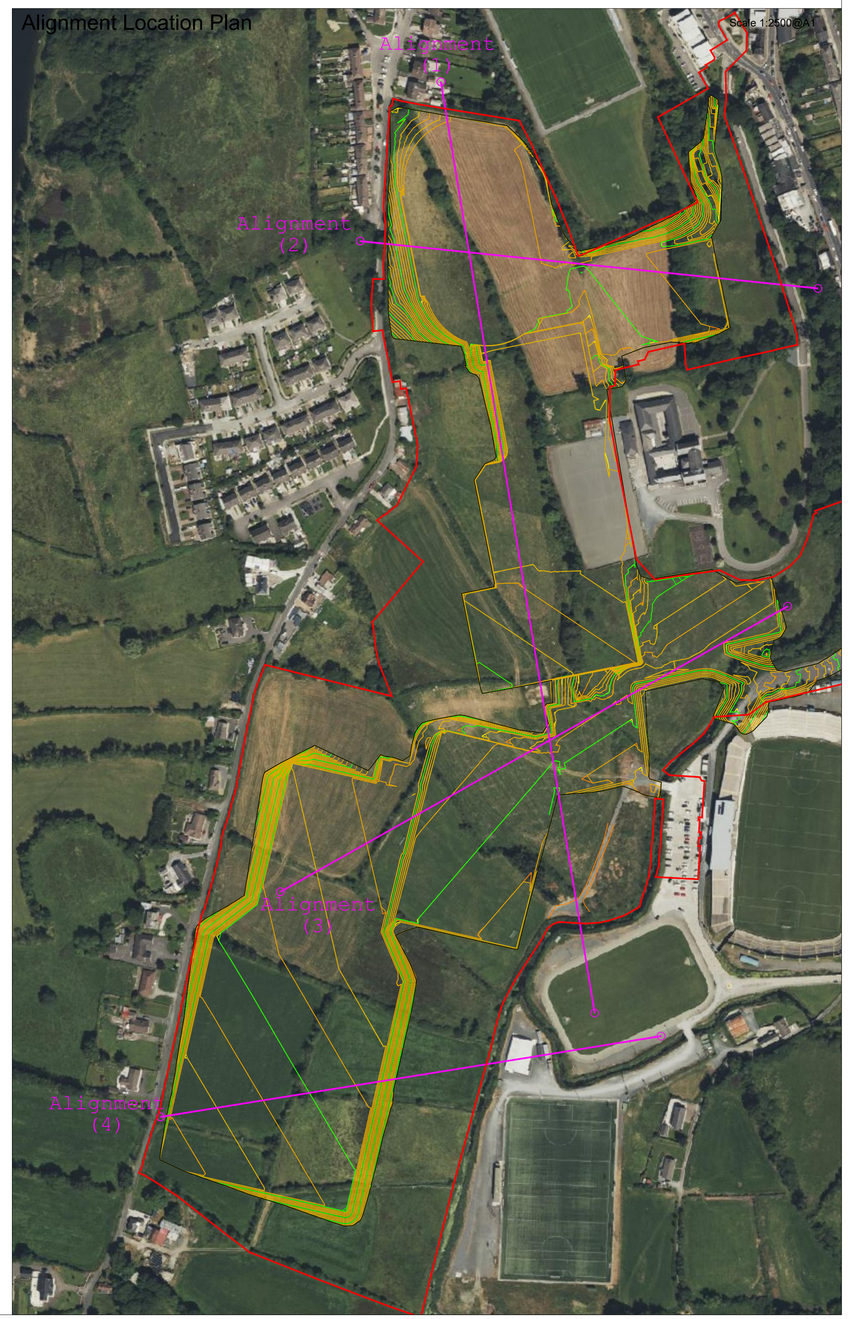
APPENDIX I: Geological Cross Sections











Notes:

Vertical Exaggeration = 5

- Land Raise
- Land Cut
- Groundwater Level - 01/03/24
- Approximate head of rock

McAdam Design

Cavan Regional Sports Campus

Geological Cross Sections

Scale	Drawing No.	Date
1:1250@A1	P000-AA-00	05/03/24

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