SUPPLEMENTARY PHASE II SITE INVESTIGATION ON LAND AT PROPOSED SOLAR FARM, WREXHAM

Prepared for:-

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1.0 INTRODUCTION

1.1 Instruction

1.1.1 GeoCon Site Investigations Ltd (GeoCon) have been commissioned by Cefn Park Solar LTD ("the client") to undertake a Phase II Geoenvironmental Site Investigation on land at Solar Farm, Wrexham.

1.1.2 This supplementary site investigation is required following conditions raised by the Local Authority with regards to the historical ROF buildings on the eastern portion of the site area and concerns to groundwater pollution

1.1.3 This report is therefore provided to establish the potential for contamination at the site as a result of historic land uses, to understand the type nature and extent of contamination present which relates to ROF Wrexham historical manufacturing of explosives.

1.1.4 This report is written in accordance with the guidance set out in Land Contamination Risk Management (LCRM), Guiding Principles for Land Contamination (GPLC) 1 – 3, and the National Planning Policy Framework (NPPF).

1.2 Scope of Works

1.2.1 Prior to commencing the site works the proposed scope of investigation was as follows, however the proposed scope will be subject to change dependent upon site conditions, access, restrictions and obstructions. The actual works undertaken following the completion of the site works and any on site amendments are detailed in section 3.0.

- Two days dynamic sample boreholes at approximately eight locations to a nominal depth of up to 5.00mbgl or refusal.
- Insitu environmental sampling, and insitu geotechnical testing.
- Full supervision of all works by engineering geologist including sampling and detailed geotechnical descriptions to BS5930, EN ISO 14688-1 EN ISO 14688-2 and EN ISO 14689 of all strata types encountered within the exploratory holes.
- The installation of eight gas and groundwater monitoring wells to a nominal depth of 5.00mbgl.
- Subsequent groundwater monitoring on one occasion commencing approximately one week after the completion of the ground investigation.
- A suite of chemical laboratory analysis.
- Production of an interpretative report including Generic Quantitative Risk Assessment (GQRA) and updated Conceptual Site Model (CSM).

1.3 Previous Investigations

1.3.1 A Phase I Preliminary Risk Assessment referenced GSI 2006 MP PI Report V1, dated December 2023 was produced by GeoCon Site Investigations.

1.3.2 A Phase II Geoenvironmental Site Investigation referenced GSI 2006 EW PII Report, dated April 2024, was produced by GeoCon Site Investigations

1.3.3 This report should be referred to in conjunction with these reports

1.4 Reliance and Limitations

1.4.1 This report has been prepared using published information and information provided by the Client and their professional advisers which has been made available to GeoCon at the time of writing only. GeoCon accepts no liability for any changes resulting from new information which has become available since this time.

1.4.2 This report is provided for the sole use of the client and their professional advisors and is confidential to them unless agreed otherwise in writing. This report may only be used and relied on once the work has been paid for in full.

1.4.3 GeoCon owes no duty of care and has no liability to any third party who is not authorised by GeoCon to use this report. Any unauthorised third parties using information contained in this report do so at their own risk.

1.4.4 This assessment has been carried out to determine the potential risks posed to future end users, along with other key receptors, resulting from potential contamination at the site, based on the proposed development. Should any revisions in the development proposals result in a change any assessment parameters detailed in this report, a re-assessment of the risk should be carried out.

1.4.5 Whilst this report may reference observations made regarding the presence of features/ issues such as invasive species, ACM, site drainage and evidence of structural abnormalities, this report does not constitute specialist surveys on these matters. Should further specialist surveys be carried out in this regard, the findings of these should be reported to GeoCon so that we may determine if this has any impact on the findings of this report.

1.4.6 The assessment and interpretation of the factual data obtained as part of this Phase II Site Investigation has been undertaken in accordance with standard consulting practice and with current national and international guidance.

1.4.7 This report presents the observations made during the Phase II Site Investigation and the factual data obtained. The conclusions and recommendations in this report are limited to those which can be made based on the findings of the survey and information provided by third parties. GeoCon assumes all third party data to be true and correct. No responsibility can be accepted by GeoCon for inaccuracies in the information provided by any other party.

1.4.8 This report is written in the context of an agreed scope of works and should not be used in a different context. Furthermore, new information, improved practices, and changes in legislation may require the reinterpretation of the report in whole or in part after its original issue. GeoCon reserve the right to alter their conclusions and recommendations in the light of further information that may become available. This report is provided for the sole use of the client and their professional advisers and is confidential to them unless agreed otherwise in writing.

1.4.9 Ground conditions can be variable and change rapidly, especially in areas of Made Ground, however it is assumed that the ground conditions encountered and observed are typical and representative of the site as a whole. Most specifically with regard to this limited investigation, the ground conditions have been determined from a limited number of exploratory holes formed across the site, therefore only a small percentage of the total area of the site has been investigated. Interpolation between exploratory holes has enabled a general picture of the subsurface conditions to be produced. Conclusions drawn from the ground investigation should be read in this context. GeoCon cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.

1.4.10 In addition, subsurface conditions including contaminant concentrations and groundwater levels may vary spatially with time. This factor should be given due consideration in the event that the information contained within this report is used after any significant period of time has elapsed.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

2.1.1 The site is located at land adjacent to Williams Farm Solar, Wrexham, at approximate National Grid Reference NGR: 337930:348420 (centre of the site).

2.1.2 A site location plan is presented as Drawing No. GSI 2006/01 in Appendix A.

2.2 Site Description

2.2.1 The site is an irregular shaped piece of land with an approximate area of 9.63Ha. The site begins to the west with a narrow corridor of land stretching eastwards from the entrance of the site. The site becomes wider to the east and opens up to the north and east and south; this area is defined as 'the site' for the purposes of this supplementary investigation.

2.2.2 The topography of the site generally slopes towards the north and the river channel on the northern boundary with localised undulations present.

2.2.3 The site is predominantly undeveloped agricultural grazing land, with small derelict bricked buildings located in the eastern portion of the site which have become overgrown with vegetation and rubble. Given the wider site's Phase II site investigation, the focus area for this supplementary site investigation is the eastern portion surrounding the existing derelict buildings down to the River Channel to the north. These buildings where historically used as part of the ROF Wrexham, situated north of the river, and contained a service area and storage for the connecting railway line to the larger facility to the north.

2.2.4 Ground conditions during the previous site walkover indicated soft and boggy ground with the most impacted area identified in the north of site located closer to the River Clywedog. The river at the northern extents has mature trees present along the low banks of the river channel. Standing surface water was also present towards this area.

2.2.5 An approximate distribution of the surface covering is given below in **Error! Reference source not found.**.

Table 2.1: Site Surface Covering

Type of Surface Cover	Distribution (%)
Soft Ground (grassed and landscaped areas)	95
Hardstanding	-
Roadways	-
Buildings	5
Water (ponds, streams)	-

2.2.6 The site is bound by the River Clywedog northwest, fence line, hedges and established trees to the east and south. The west of site is bound by the adjacent fence line of Williams Solar Farm.

2.2.7 Access to the site is via unnamed road off the east of Bedwell Road.

2.2.8 A selection of photographs from the site walkover are presented as GSI 2006/02 in Appendix A.

2.3 Surrounding Area

2.3.1 The current surrounding land use to the site is generally grassland and agricultural properties in all directions, with the solar farm present adjacent to the site to the immediate south, and the meandering River channel to the north.

2.3.2 The topography of the surrounding area is sloping down towards the north; contour maps show a slight decline in elevation to the west.

2.4 Future Site Usage

2.4.1 It is currently proposed to construct additional extension to the preexisting solar farm development adjacent to the site, referenced WR-EX-258-06-01 and contained with Appendix A. The development contains a number of structures in Field 1B and 1C, with access roadway infrastructure proposed and the open areas of the site populated with rows of solar panels installed.

2.4.2 This assessment has been carried out with reference to this proposed development plan as provided by the client, any changes to the proposed development may result in this assessment requirement updating.

3.0 GROUND INVESTIGATION

3.1 General

3.1.1 The intrusive investigation was carried out between 3rd July and 4th July 2025.

3.1.2 The ground investigation has been carried out in accordance with BS5930 and the UK Specification for Ground Investigation Second Edition 2012.

3.1.3 All strata descriptions were undertaken in accordance with BS5930 Amendment 1; EN ISO 14688 -1; EN ISO 14688 -2; and EN ISO 14689.

3.1.4 The final scope of the ground investigation was as per the scope of works as defined in section 1.2.

3.1.5 The ground investigation was carried out to discharge planning conditions and address concerns raised by the LPA regarding historical ROF Wrexham activities on the site and potential for contamination within the groundwater beneath the site.

3.1.6 The locations of the exploratory holes were specified by GeoCon and were positioned to gain key information beneath the site in relation to historical buildings relating to the railway connection to the ROF Wrexham facility which resides to the north beyond the river.

3.1.7 All locations were checked against buried service location plans and then scanned with a Cable Avoidance Tool (CAT) and Genny prior to excavation, and a permit to dig was then issued. Each location was then continued by hand down to a minimum of 1.20mbgl to clear any buried services or other subsurface obstructions. All locations were then checked again with a Cable Avoidance Tool (CAT) at the base of the hand excavated inspection pit by GeoCon prior to commencement of drilling.

3.1.8 All access permissions were arranged by Client prior to the ground investigation commencing.

3.1.9 An exploratory hole location plan is presented in Appendix A as drawing number GSI 2006-1/02.

3.2 Dynamic Sample Boreholes

3.2.1 Eight dynamic sample boreholes, referenced DS01 to DS08, were drilled to depths of 5.45mbgl.

3.2.2 The Dynamic sample boreholes were drilled using a tracked Dynamic sample rig in order to facilitate geoenvironmental sampling and to gain an understanding of the environmental properties of the soils and rock beneath the site, and to facilitate the installation of groundwater monitoring standpipes.

3.2.3 The dynamic sample boreholes were drilled using 100mm diameter barrel reducing in size with depth. to achieve the target depths.

3.2.4 All dynamic sample borehole logs are presented in Appendix B.

3.3 Sampling and Insitu Testing

3.3.1 The environmental and geotechnical sampling regime and insitu testing regime included the following:

- Environmental samples for subsequent chemical analysis were taken from each strata type, with a minimum of three samples taken from the upper 1.00 m, then at 1.00 m intervals in Made Ground with a minimum of one sample from the natural strata.
- Insitu Standard Penetration Tests (SPTs) were carried out at 1.00 m intervals down to the base of each borehole.
- Groundwater samples for subsequent chemical analysis were taken from any exploratory holes where sufficient groundwater was available to collect a sample.

3.3.2 In addition to the above standard sampling Soil samples were collected for environmental analysis by the engineering geologist on site based on physical and visual inspection.

3.3.3 All samples were stored in pre-chilled cool-boxes prior to immediate dispatch to laboratory. Where there has been a delay in transporting the samples to the laboratory, samples have been kept in a cool dark storage unit inside cool boxes packed with ice, which is regularly replaced to maintain sample quality.

3.3.4 The environmental samples were subsequently transported to a chemical laboratory in plastic tubs, glass jars and soils vials.

3.3.5 Groundwater samples were collected in a range of glass jars and plastic bottles with all necessary preservatives where required, and were subsequently transported to a chemical laboratory.

3.4 Installations and Backfill

3.4.1 All of the dynamic sample boreholes were installed with ground water monitoring standpipes. The details of the ground water monitoring standpipes are summarised below in Table 3.1:

Table 3.1: Gas and Groundwater Monitoring Installations

BH ID	Installation Depth (mbgl)	Response Zone (mbgl)	Installation Date	Strata	Comments
DS01	5.00	1.00	04/07/25	Clay	NA
DS02	5.00	1.00	04/07/25	Clay	NA
DS03	5.00	1.00	04/07/25	Clay	NA
DS04	5.00	1.00	04/07/25	Clay	NA
DS05	5.00	1.00	04/07/25	Clay	NA
DS06	5.00	1.00	04/07/25	Clay	NA
DS07	5.00	1.00	04/07/25	Clay	NA
DS08	5.00	1.00	04/07/25	Clay	NA

3.4.2 Full details of the installations and backfill are presented on the relevant exploratory hole logs.

3.4.3 All monitoring standpipes are constructed using 50 mm slotted pipe with a Geosock filter and gravel surround medium within the response zone, and 50 mm plain pipe with a bentonite seal above the response zone (minimum 0.50m thick).

3.5 Groundwater

3.5.1 Where groundwater was encountered a waiting period of 20 minutes was allowed to monitor any change (rise or fall) in the levels of each groundwater strike.

3.6 Geoenvironmental Monitoring

Groundwater Quality Monitoring

3.6.1 Groundwater monitoring has been carried out from the monitoring installations using a standard dip meter on one occasion to establish the standing water levels beneath the site, and facilitate groundwater sampling.

3.6.2 Samples of groundwater were taken to facilitate chemical testing and were taken using a standard water bailer.

3.6.3 Surface water samples were taken upstream of the site area and downstream to inform risk to controlled waters.

3.7 Laboratory testing

3.7.1 Chemical laboratory testing was subsequently carried out on selected samples of soil. Further details of the chemical laboratory testing are given within section 5.0 – Chemical Testing and Results.

3.7.2 All chemical laboratory testing has been scheduled by GeoCon.

3.8 Restrictions

3.8.1 No restrictions were encountered during this site investigation that would have prevented parts of the site being accessed and consequently resulting in any of the exploratory locations being abandoned.

4.0 GROUND CONDITIONS

4.1 Published Geology

4.1.1 The British Geological Survey shows the site to be underlain by the geological succession outlined below Table 4.1: Published Geology.

Table 4.1: Published Geology

Geology	Description /strata	BGS General Description (Lexicon)
Artificial	Landscaped Ground	Artificially Modified Ground
Superficial	Till and Alluvium	Gravel, Sand, Clay and Silt
Bedrock	Kinnerton Sandstone Formation	Sandstone

4.2 General

4.2.1 A generalised summary of the ground conditions encountered, depths to base, and thickness recorded from the exploratory hole records is presented below in Table 4.2: Summary of Ground Conditions.

Table 4.2: Summary of Ground Conditions

Geology / Strata	Depth (mbgl)				Thickness (m)		Locations encountered
	Top		Base		Min	Max	
	Min	Max	Min	Max			
Made Ground	0.00	-	0.20	0.80	0.20	0.80	DS02, DS03, DS08
Topsoil	0.00	-	0.05	0.30	0.05	0.30	DS01, DS04, DS05, DS06, DS07
Clay	0.05	0.80	1.50	5.45	1.30	5.40	All locations
Sand	0.20	1.50	0.50	2.40	0.30	0.90	DS02, DS05
Groundwater	**Strike depth (mbgl)**		**Rest Level (mbgl)**		**Comments**		**Locations encountered**
	Min	Max	Min	Max			
Strike	-	4.23	1.55	-	NA		DS05
SWL at end of borehole	-	-	1.55	-	NA		DS05
Seepage	-	-	-	-	NA		Not Encountered

4.2.2 The general ground conditions encountered have been summarised below.

4.2.3 Detailed strata descriptions are presented on the dynamic sample borehole logs presented in Appendix B.

4.3 Made Ground

4.3.1 Made Ground was encountered in DS08 from ground level to depths of 0.80mbgl. Reworked topsoil was encountered from ground level to depths of between 0.20mbgl and generally comprised dark brown clayey slightly gravelly fine to medium organic sand. Underlying this was a slightly clayey gravelly sand with fragments of brick.

4.4 Topsoil

4.4.1 Topsoil was encountered in DS01 to DS07 from ground level to depths of between 0.05 and 0.30mbgl and generally comprised clayey slightly gravelly fine to medium sand.

4.5 Superficial Deposits

4.5.1 Clay deposits were encountered in all exploratory hole locations directly beneath the Topsoil and Made Ground deposits and were proven to a depth of 5.45mbgl and generally comprised firm to very stiff slightly sandy slightly gravelly clay.

4.5.2 Interbedded Sand deposits were encountered in DS02 and DS05 directly beneath between the clay and were proven to a depth of 2.40mbgl. These generally comprised medium dense slightly clayey slightly gravelly fine to medium sand.

4.6 Bedrock

4.6.1 Bedrock was not encountered during this ground investigation.

4.7 Groundwater

4.7.1 Groundwater was encountered in one of the eight exploratory holes formed across the site. Further details are as follows:-

- DS05: Strike at 4.23mbgl rising to 3.22mbgl.

4.7.2 Standing water levels were recorded at the end of each borehole. Further details are as follows:-

- DS05 – SWL at 1.55mbgl.

4.8 Groundwater Monitoring

4.8.1 A groundwater monitoring regime was carried out at the site, following a period of sustained heavy rainfall, to establish the ground water levels beneath the site, which included monitoring on one occasion. Table 4.3: Groundwater Monitoring Results, below presents the details of the groundwater monitoring regime. All boreholes were purged and developed accordingly to prior to the groundwater monitoring. It is noted that all boreholes developed with water present had a slow recharge rate.

Table 4.3: Groundwater Monitoring Results

Exploratory Hole ID	Base of Hole (mbgl)	Standing Water Level (SWL) (mbgl)
		Date of Visit
		22 July 2025
DS01	5.00	DRY
DS02	5.00	DRY
DS03	5.00	3.20
DS04	5.00	DRY
DS05	5.00	1.50
DS06	5.00	4.90
DS07	5.00	4.00
DS08	5.00	3.80

4.8.2 Samples of groundwater were taken from DS03, DS05, DS07 and DS08 for subsequent chemical analysis.

4.9 Obstructions

4.9.1 No obstructions were encountered during this ground investigation.

5.0 CHEMICAL TESTING AND RESULTS

5.1 General

5.1.1 All samples were sent to a UKAS accredited chemical testing laboratory, and MCERTS were used where available. The analytical strategy focussed on a general suite of potential contaminants and the analytical suites are summarised in Table 5.1: Summary of Chemical Testing Suite.

5.1.2 All chemical testing results are presented in Appendix C.

Table 5.1: Summary of Chemical Testing Suite

Testing	Comment	No. of soil samples analysed	No. of Controlled waters samples
GeoCon Standard Suite: (heavy metals & inorganics, speciated PAH, and asbestos screen)	Targeted analysis of soils and groundwater beneath the site in vicinity of historical buildings and railway.	8	6
GeoCon Hydrocarbon Suite: (Speciated TPH CWG, BTEX and MTBE)	Targeted analysis of soils and groundwater beneath the site in vicinity of historical buildings and railway.	8	6
GeoCon Glycol Suite:	Specialist analysis of soils and groundwater beneath the site in vicinity of historical buildings and railway due to historical legacy of explosives production.	8	6

5.2 Chemical Testing Results - Soil

5.2.1 Only detectable concentrations of contaminants reported above the laboratory detection limits are presented in Table 5.2: Summary of Soil Chemical Testing Results. All other samples recorded contaminant concentrations below laboratory detection limits.

5.2.2 All chemical results have initially been compared against screening criteria for a worst case scenario utilising residential with plant uptake end use, using a worst case scenario of 1% SOM where appropriate.

Table 5.2: Summary of Soil Chemical Testing Results

Determinand	No. Of samples analysed	Screening value (mg/kg) (where applicable)	Determinand concentration range (mg/kg)		No of Samples exceeding screening value
			Min	Max	
Arsenic	8	37	4.00	7.00	0
Cadmium	8	11	BD	BD	0
Copper	8	2400	9.00	23.00	0
Chromium	8	910	16.00	32.00	0
Lead	8	210	20.00	88.00	0
Mercury	8	1.2	BD	BD	0
Nickel	8	180	15.00	40.00	0
Selenium	8	250	BD	BD	0
Zinc	8	3700	34.00	149.00	0
Acenaphthene	8	210	BD	BD	0

Acenaphthylene	8	170	BD	BD	0
Anthracene	8	2400	BD	0.06	0
Benzo(a)anthracene	8	7.2	BD	1.42	0
Benzo(a)pyrene	8	2.2	BD	1.59	0
Benzo(b)fluoranthene	8	2.6	BD	1.86	0
Benzo(ghi)perylene	8	320	BD	0.97	0
Benzo(k)fluoranthene	8	77	BD	0.65	0
Chrysene	8	15	BD	1.39	0
Dibenzo(ah)anthracene	8	0.24	BD	0.20	0
Fluoranthene	8	280	BD	1.38	0
Fluorene	8	170	BD	0.00	0
Indeno(123-cd)pyrene	8	27	BD	1.10	0
Naphthalene	8	2.3	BD	0.00	0
Phenanthrene	8	95	BD	0.16	0
Pyrene	8	620	BD	1.37	0
TPH (Total)	8		BD	284	

BD = Below Detection

NGV = No Guideline Screening Value Available

5.2.3 Eight samples were analysed for asbestos screen. No fibres were detected in any of the samples.

5.2.4 Eight samples were analysed for a suite of glycols, which provide a marker to the presence of explosive residues associated with munition production. All determinands were below detection levels.

5.3 Chemical Testing Results – Controlled Waters

5.3.1 A total of four groundwater samples were obtained during water quality monitoring, where wells were previously developed of x3 well volumes prior to sampling. Alongside this, two surface water samples were obtained from upstream of the site investigation area and downstream to assess the potential impact of any contamination which may be affecting the surface water course from the site.

5.3.2 Only detectable concentrations of contaminants reported above the laboratory detection limits are presented In Table 5.3 and 5.4. All other samples recorded contaminant concentrations below laboratory detection limits

5.3.3 All chemical testing results have initially been compared to Drinking Water Standards (DWS) and WHO Screening Values to assess risk to groundwater, and Environmental Quality Standards (EQS) to assess risk to surface water. Any compound concentrations which exceed the DWS or WHO screening value are highlighted in bold and any compound concentrations which exceed the EQS screening value are underlined. All other chemicals analysed not listed in the table recoded levels below the limits of detection.

Table 5.3: Summary of Groundwater Chemical Testing Results

Determinand	No. Of samples analysed	Screening value (where applicable)		Determinand concentration range above detection (µg/l)		No of Samples exceeding screening value
Summary of Groundwater results		**DWS**	**WHO**	**Min**	**Max**	
Arsenic		10	-	1	2	0
Cadmium		5	-	BD	0.3	0
Copper		2000	-	5	17	0

Chromium		50	-	3	14	0
Lead		10	-	7	7	0
Mercury		1	-	BD	BD	0
Nickel		20	-	4	5	0
Selenium		10	-	BD	2	0
Zinc		5000	-	5	18	0
Acenaphthene		-	-	0.02	0.08	0
Acenaphthylene		-	-	BD	BD	0
Anthracene		-	-	0.03	0.07	0
Benzo(a)anthracene		-	-	0.08	0.11	0
Benzo(a)pyrene		-	-	0.03	0.07	0
Benzo(b)fluoranthene*		0.1*	-	0.04	0.09	0
Benzo(ghi)perylene*		0.1*	-	0.03	0.03	0
Benzo(k)fluoranthene*		0.1*	-	0.02	0.04	0
Chrysene		-	-	0.08	0.1	0
Dibenzo(ah)anthracene		-	-	BD	BD	0
Fluoranthene		-	-	0.47	0.74	0
Fluorene		-	-	0.01	0.04	0
Indeno(123-cd)pyrene*		0.1*	-	0.03	0.03	0
Naphthalene		-	-	BD	BD	0
Phenanthrene		-	-	0.03	0.13	0
Pyrene		-	-	0.03	0.44	0
Ali >C5-C6		-	15000	BD	BD	0
Ali >C6-C8		-	15000	BD	BD	0
Ali >C8-C10		-	300	BD	BD	0
Ali >C10-C12		-	300	BD	BD	0
Ali >C12-C16		-	300	BD	BD	0
Ali >C16-C21		-	-	BD	8	0
Ali >C21-C35		-	-	BD	BD	0
Aro >C5-C7		-	10	BD	BD	0
Aro >C7-C8		-	700	BD	BD	0
Aro >C8-C10		-	300	BD	BD	0
Aro >C10-C12		-	90	BD	BD	0
Aro >C12-C16		-	90	BD	5	0
Aro >C16-C21		-	90	BD	21	0
Aro >C21-C35		-	90	BD	30	0

BD = Below Detection

** = Sum of 4: to not exceed 0.1*

5.3.4 A specialist suite of glycol testing was undertaken, with all determinands below the limit of detection, indicating that no glycols are present within the groundwater

Table 5.4: Summary of surface water Chemical Testing Results

Determinand	No. Of samples analysed	Screening value (where applicable (µg/l)		Determinand concentration above detection (µg/l)		No of 0Samples exceeding screening value
Summary of surface water results		**EQS**	**WHO**	**Upstream**	**Downstream**	
Cyanide (total)	2	1	-	BD	BD	0
Phenols - Total by HPLC	2	7.7	-	BD	BD	0
Arsenic	2	50	-	BD	BD	0
Cadmium	2	1.5	-	BD	BD	0
Copper	2	1	-	BD	BD	0
Chromium	2	3.4	-	BD	BD	0
Lead	2	14	-	1	1	0
Mercury	2	0.07	-	BD	BD	0
Nickel	2	34	-	BD	BD	0
Selenium	2	-	-	BD	BD	0
Zinc	2	20	-	29	30	2
Phenanthrene	2	-	-	0.01	0.01	0
Pyrene	2	-	-	BD	BD	0
1,2-Butanediol (1,2-Butylene glycol) (w)	2	-	-	BD	2.7	0
1,2-Propanediol (1,2-Propylene glycol) (w)	2	-	-	BD	2.8	0
1,3-Butanediol (1,3-Butylene glycol) (w)	2	-	-	BD	2.6	0
1,3-Propanediol (1,3-Propylene glycol) (w)	2	-	-	BD	2.7	0
1,4-Butanediol (tetramethylene glycol) (w)	2	-	-	BD	2.7	0
1,5-Pentanediol (pentamethylene glycol) (w)	2	-	-	BD	2.6	0
Ethanediol (ethylene glycol)	2	-	-	DB	3.0	0
2,2'-oxydiethanol (diethylene glycol)	2	-	-	BD	2.5	0
2 ,2'(ethylenedioxy)diethanol (triethylene glycol) (w)	2	-	-	1.2	2.6	0
2-butoxyethanol (butyl glycol) (w)	2	-	-	BD	3.0	0
3 ,3'-oxydipropanol (dipropylene glycol)	2	-	-	BD	2.7	0
2-isopropoxyethanol (isopropyl glycol) (w)	2	-	-	BD	3.07	0
2-methyloxyethyl acetate (w)	2	-	-	BD	3.8	0
2-butoxyethyl acetate	2	-	-	BD	3.2	0
2 -(2-butoxyethoxy)ethanol (butyl diglycol, DEGBE)	2	-	-	BD	2.7	0

BD = Below Detection

5.3.5 PAH and TPH testing indicated all determinands below detection levels and therefore not included in the table above.

6.0 GENERIC QUANTITATIVE RISK ASSESSMENT (GQRA)

6.1 Criteria for interpretation

6.1.1 The regime for contaminated land was set out in Part IIA of the Environmental Protection Act (EPA) 1990, as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently updated with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380), which consolidated the previous regulations and amendments and added in provisions regarding radioactive contaminated land. These regulations came into force on 4th August 2006. This modified the wording for "Contaminated Land" under Part IIA of the EPA. Section 78A (2) defines contaminated land as "land which appears to be in such a condition, by reason of substances in, on or under the land, that:

- significant harm is being caused, or there is a significant possibility of significant harm being caused (SPOSH);

Human Health Receptors

6.1.2 An initial Generic Quantitative Risk Assessment (GQRA) for human health has been undertaken by comparison of the soil analytical results with published guidance criteria. These can be classified as Generic Assessment Criteria (GAC) or Soil Screening Values (SSV's) and are widely referred to by consultants, Regulatory Authorities and other professionals within the industry and include the following:

- Land Quality Management (LQM) Chartered Institute of Environmental Health (CIEH) have published a series of GACs / SSV's via the CLEA v1.06 software which are applicable to the UK for common determinands.
- Defra Category 4 Screening Levels 2014 (C4SL's) for assessment of land affected by contamination.
- ATRISK Soil SSV's (Soil Screening Values) at 1% SOM for a sand soil derived by Atkins in line with the Environment Agency 2009 guidance (SR2, SR3, SR4, SR7) using the CLEA v1.04 and CLEA v1.06 software.
- NHBC Technical Extra 15 – 2014.
- Current published Soil Guideline Values (SGVs) published by the Environmental Agency (EA).
- Contaminated Land: Applications in Real Environments (CL:AIRE) 'The Soil Generic Assessment Criteria for Human Health Risk Assessment' GAC's via the CLEA v1.06 software (updated version of the v1.04 update after the release of LQM GAC's).

6.1.3 It should be noted that the above guidance criteria are generally restricted with depth i.e. the values quoted with reference to human health are generally only applicable in the top 1.00m of soil and do not (dependant on the conceptual site model and conditions identified on site) necessarily identify significant harm.

Controlled Water Receptors

6.1.4 An initial Generic Quantitative Risk Assessment (GQRA) for controlled waters has been undertaken by comparison of the surface water and groundwater analytical results with published guidance criteria. These can be classified as Generic Assessment Criteria (GAC) or Soil Screening Values (SSV's) and are widely referred to by consultants, Regulatory Authorities and other professionals within the industry and include the following:

- UK Drinking Water Standards

- Environmental Quality Standards
- World Health Organisation (WHO)

6.2 Risk to Human Health

6.2.1 Chemical results have been screened against current guideline values where applicable for a commercial/ industrial end use.

6.2.2 All chemical determinands recorded levels below the relevant screening criteria (where available) for the above end use.

6.2.3 All glycol determinands were recorded below detection levels.

6.2.4 Based on the above, contamination does not appear to be present beneath the site within the Made Ground or shallow natural soils.

6.2.5 It is understood that the proposed development comprises construction of a solar farm.

6.2.6 Therefore, a pollutant linkage is not considered to be present and the risk to human end users are considered to be **very low** at this stage.

6.2.7 Risks to construction workers are considered to be **very low** All construction workers should wear appropriate Personal Protective Equipment (PPE) including latex gloves and dust masks. Provisions should be made for water on site to 'damp down' any dust in dry conditions.

6.2.8 Risks to neighbours / general public are considered to be **very low**. Provisions should be made for water on site to 'damp down' any dust in dry conditions.

6.2.9 Should any erroneous materials or previously unidentified contamination be encountered during construction then further sampling and analysis may be required.

6.2.10 The above recommendations should be agreed in principle with the Local Planning Authority prior to development to avoid any delays or complications at a later stage.

6.3 Risk to Controlled Waters

Groundwater

6.3.1 The Environmental Agency aquifer classification scheme indicates that the superficial aquifers designation for the site are classed as Secondary A and Secondary A Undifferentiated Aquifers and the bedrock aquifer designation for the site is classed as a Principal Aquifer.

6.3.2 The previous Phase II site investigation did not encounter any contamination within site soils which would impact the groundwater beneath the site. It was considered that any groundwater contamination would be sourced from off-site due to the heavy industrial legacy of Maelor Works to the south or ROF Wrexham activities.

6.3.3 Therefore, Water Quality Analysis was undertaken on the site from the installed monitoring wells, with testing results indicating no exceedances of determinands above the published screening criteria. It is considered that DS05 and DS06 is within the hydraulic influence of the River, with groundwater flowing north across site to these locations. No glycol contamination was noted within the groundwater or soils, which indicates that any glycol contamination detected within the downstream surface water sample to be attributed to land to the north of the river where the munitions factories were located. Given the sites limited development and long standing agricultural usage, it is clear that the historical buildings on site which are associated with the railway connecting to the ROF Wrexham to the north has not impacted Controlled Waters on the site.

6.3.4 Given the development proposals, concerns were raised regarding the potential for piling mobilising contamination. Given the findings of the site investigations and location of proposed piling, it is considered that no contamination is present which would migrate via the pathway created by installing pile foundations.

6.3.5 Therefore, based on the above information, the results of the soil and groundwater testing, the generally impermeable geology beneath the site, and considering that natural attenuation, dilution and dispersion will take place, the risks to groundwater and drinking waters are considered to be **very low** at this stage.

Surface Water

6.3.6 The nearest surface watercourse to the site is the River Clywedog located adjacent to site along the northern boundary, flowing west to east.

6.3.7 Water Quality Analysis was undertaken on two surface water samples, taken from upstream and downstream of the site to characterise the surface water quality and assess if the site is impacting this receptor. From the testing, it can be seen that there is elevated zinc within the surface water upstream and downstream of site. Furthermore elevated Glycols are present in the downstream sample, with limited presence of this contamination upstream. It is clear that between the two sample points that glycol contamination, associated with historical ROF activities, is impacting the receptor; however consideration is given to the lack of glycols encountered in the soil and groundwater testing undertaken on site and the ROF Wrexham ammunition production being located north of the river and closest to where the downstream sample was taken. It is likely that the footprint of the munitions factory to the north of the site and the river is the source of this contamination, as there is no evidence of glycol on the site.

6.3.8 Therefore, based on the above information, the results of the soil and groundwater testing, the historical legacy to the north of the river and the site, distance of the surface water receptor to the site, the risks to surface waters are considered to be **very low** at this stage.

6.4 Ground Gas Risk Assessment

General

6.4.1 There are no landfill sites or other waste associated sites within 250m of the site boundary and limited Made Ground encountered on site.

6.4.2 Considering the limited potential for ground gas generation identified, and the proposed use as a solar farm, the potential risk of ground gas is Very Low.

6.5 Plants and Native Grasses

6.5.1 Any plants that may be grown at the site in areas of landscaping may potentially be at risk from phytotoxic elements in any artificial soils beneath the site. Guideline screening values are currently available for copper, nickel and zinc which are considered to be the most harmful to plant life.

6.5.2 All three chemical Determinands recorded levels below the relevant phytotoxic screening criteria. In addition, all plant growth appeared normal during the site walkover. Given the above and the generally low potential for contamination and the results of the wider soil analysis, the risks to plants and native grasses are considered to be very low.

6.6 Buried Services and Utilities

6.6.1 Any organic contamination present in the soils or groundwater beneath the site would pose a risk of premature failure to below ground services via chemical reaction. Based on the chemical analysis carried out during this ground investigation, the risks to buried services and pipelines are considered to be **low**.

6.6.2 It is the responsibility of the utility providers to confirm the risk status and determine what materials should be used in the provision of any newly proposed buried services and utilities based on the results of the chemical analysis with this report. A copy of this report should therefore be provided to the utility contractors.

6.6.3 It is recommended that prior to the placement of any newly proposed buried services, that adequate testing of the soils of which the pipes / cables will be laid in is carried out to determine the suitability of those soils for the utility provider's equipment.

6.7 Updated Conceptual Site Model (CSM)

6.7.1 Following the results of the site investigation and above assessment, an updated Conceptual Site Model (CSM) has been produced overleaf as Table 6.3: Updated Conceptual Site Model (CSM).

Table 6.3: Updated Conceptual Site Model (CSM)

Potential Sources	Contaminants of Concern	Potential Pathway	Potential Receptor	Potential Pollutant Linkage	Probability	Consequence	Risk Classification	Action / Mitigation / Justification
Made Ground both on site and within influencing distance of the site Current and former land uses both on site and within influencing distance of the site	Heavy metals, sulphates and inorganics PAH's Asbestos Mobile organic contamination Glycol	Ingestion Inhalation Dermal Contact	**Human health** Including current site users, future site users	Considered potentially active	Unlikely	Mild	**Very Low**	Results of the site investigation confirm that all determinands analysed recorded levels below the relevant screening criteria. Therefore, no further action is required
			Human health Construction workers	Considered potentially active	Unlikely	Mild	**Very Low**	Construction personnel to adhere to standard PPE guidelines and hygienic site practices to control risk.
			Human health Neighbouring residents	Considered potentially active	Unlikely	Mild	**Very Low**	Results of the site investigation confirm that all determinands analysed recorded levels below the relevant screening criteria. Therefore, no further action is required.
Landfill sites Potentially infilled Land (ponds, quarries, reservoirs etc) Made Ground Natural organic soils Coal mining Fuel Stations (on and off-site sources)	Hazardous ground gases including CO_2, CH_4 CO, H_2S Vapours	Inhalation Explosion	**Human health** Including current site users, future site users, neighbouring residents and constructions workers **Buildings** Confined Spaces	Considered inactive	Unlikely	Severe	**Very Low**	No further action required

Potential Sources	Contaminants of Concern	Potential Pathway	Potential Receptor	Potential Pollutant Linkage	Probability	Consequence	Risk Classification	Action / Mitigation / Justification
Made Ground on site Current and former land uses on site	Heavy metals, sulphates and inorganics PAH's Mobile organic contamination Glycols	Lateral and vertical migration and leaching of contaminants into local groundwater	**Underlying Aquifer** (Potable water)	Considered potentially active	Unlikely	Mild	**Very low**	Given the encountered ground conditions, lack of made ground and the results of the chemical testing, it is considered a very low risk to the receptor.
Made Ground on site Current and former land uses on site	Heavy metals, sulphates and inorganics PAH's Mobile organic contamination Glycols	Lateral and vertical migration and leaching of contaminants into surface water bodies via permeable strata and features.	Local **water courses** and associated flora and fauna	Considered potentially active	Unlikely	Mild	**Very Low**	Given the encountered ground conditions, lack of made ground and the results of the chemical testing, it is considered a very low risk to the receptor.
Made Ground beneath the site Current and former site uses	Phytotoxic elements	Plant uptake	**Plants and vegetation**	Considered potentially active	Unlikely	Minor	**Very low**	Results of the site investigation confirm that all determinands analysed recorded levels below the relevant phytotoxic screening levels. Therefore, no further action is required.

7.0 OTHER POTENTIAL DEVELOPMENT CONSIDERATIONS

7.1 Waste Soils Characterisation

7.1.1 Any excavation works may potentially produce waste soils for which appropriate waste management will be required. Any soils requiring removal and disposal from site would require appropriate classification testing prior to disposal and the results would need to be confirmed with the landfill operator. Isolated hotspots if encountered may need to be taken off as Non-Hazardous or Hazardous waste. Any off-site disposal of soil requires careful management and due consideration of appropriate legislation, guidance and Duty of Care responsibilities.

7.1.2 A Hazardous Waste Assessment should be carried out on any materials requiring removal and disposal from site. Waste Acceptance Criteria (WAC) testing may also be required and the results of the Hazardous Waste Assessment and WAC testing (if appropriate) should be presented to the landfill operator for their confirmation of waste category.

7.2 Imported Fill

7.2.1 Any imported fill will be subject to specific quality requirements, particularly in any proposed areas of landscaping. Allowance should be made for the testing of imported fill materials prior to emplacement to ensure suitability should the materials be delivered with no testing certification.

7.3 Construction Activities

7.3.1 Due consideration should be given to the suppression of noise, dust and vibration emissions from the site during construction.

7.3.2 Given the lack of contamination on site, it is considered any foundation solutions to not be a risk to receptors by providing a pathway during installation.

7.4 Material Re-Use

7.4.1 Any site won soils / materials may be available for reuse across the site subject to the appropriate classification, analysis and engineered solution.

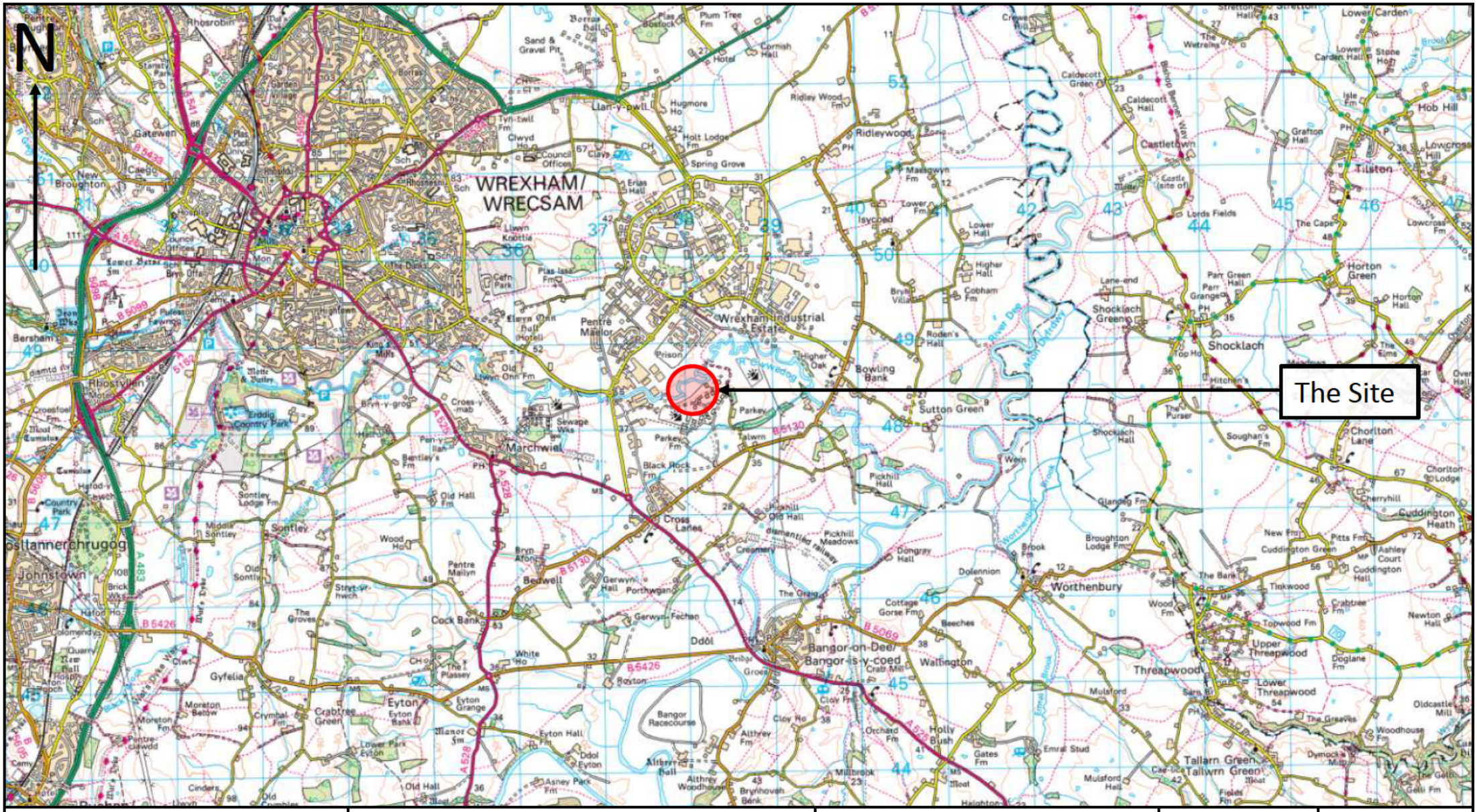
7.4.2 Any natural topsoil or Made Ground topsoil may be suitable for reuse across the site in any proposed landscaped areas subject to appropriate chemical testing.

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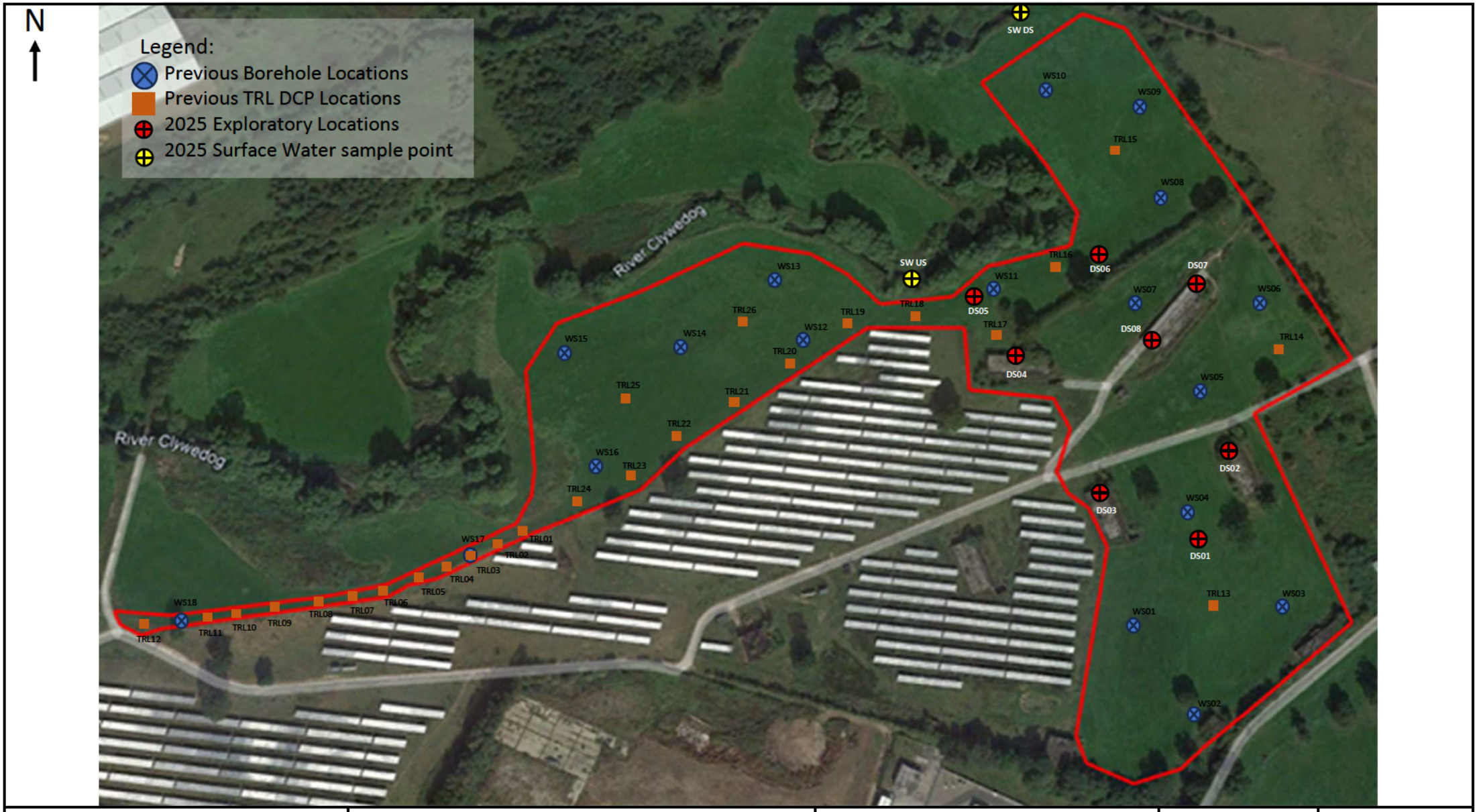
APPENDIX A

DRAWINGS



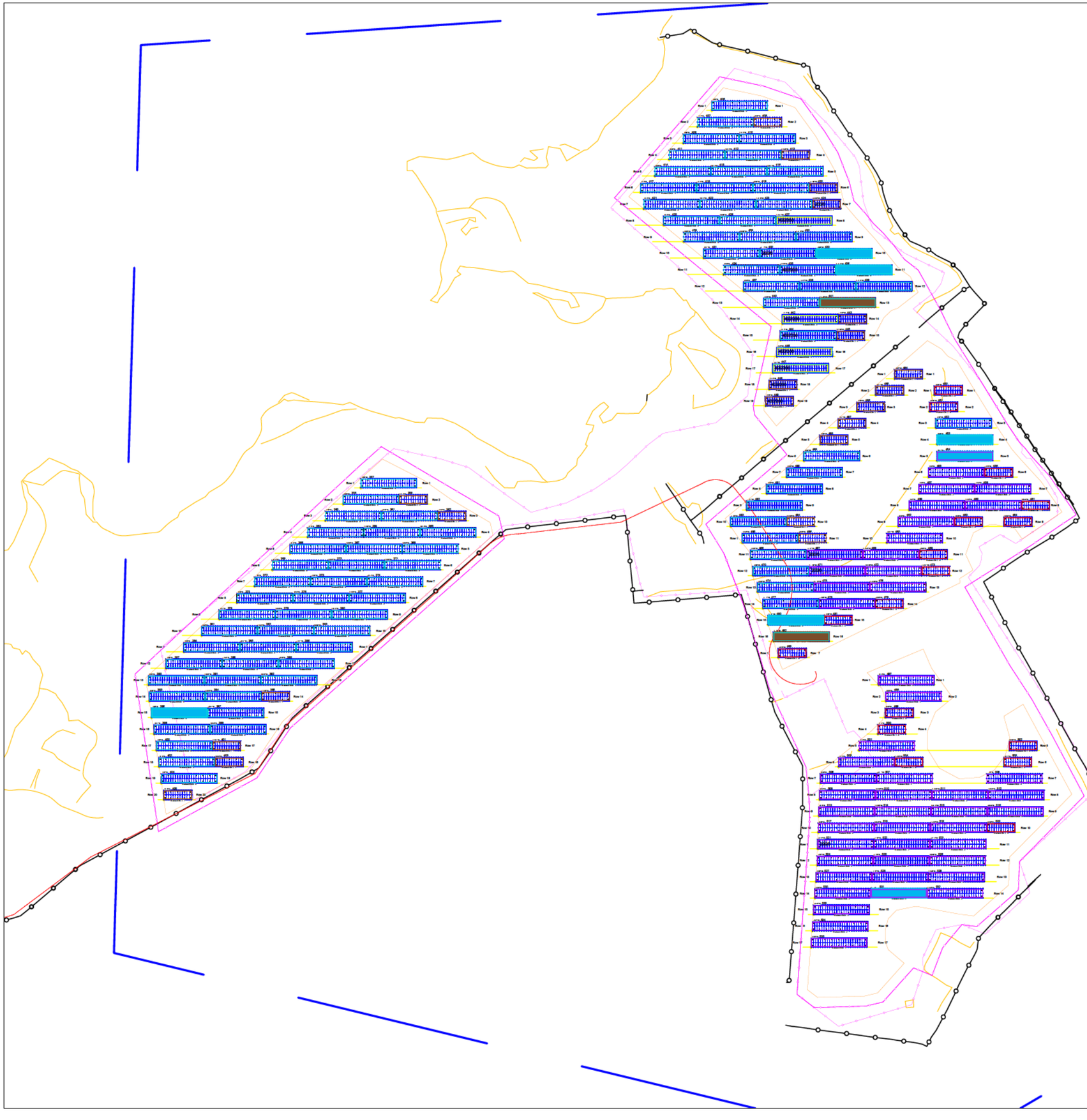
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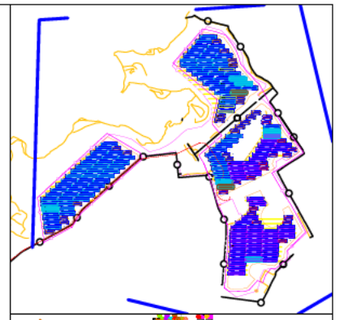
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TITLE	**DATE**	**DRAWN BY**
Site Location Plan	December 2023	MP

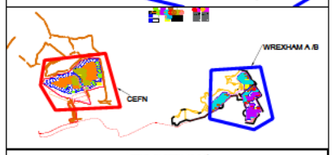


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PROJECT ID	DRAWING NUMBER	SCALE
GSI 2006 Solar Farm, Wrexham	GSI 2006-1/02	N.T.S
TITLE	**DATE**	**DRAWN BY**
Exploratory Hole Location Plan	February 2025	EW







Arrays by array height

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Tables with "0 / 0 Type" Posts (166 Nos)

Tables with "200 / 0 Type" Posts (5 Nos)

Tables with "400 / 200 Type" Posts (8 Nos)

Wrexham A&B Total 179 Nos Tables

Note-1: Pile coordinates has been set in accordance with 3D topographic coordinates. During site application, first and last row of each tables shall be marked on ground by surveyor.

Note-2: "Hatches with different colours" indicate that on those tables panels are lack of ground clearance due to small hills or pits on loca ion for each marked table. Local earthworks should be carried out related locations.

Note-3: "Cyan Cross Lines" indicate that on those tables East-West slopes are higher than ±15°.

Note-4: The tables marked with 'Blue Rectangle' are the tables that are located in the hollow or bump due to the East-West slope and may cause problems.

Description

- WREXHAM A 2P24 T-4
- WREXHAM B 2P24 T-5
- WREXHAM A 2P12 T-6
- WREXHAM B 2P12 T-7
- Fence
- Parsel

Project Description:

DC Power	Module Type:	Total Module
4.915,20 kWp	JINKO SOLAR N TYPE BIFACIAL	7.680
AC Power	Inverter / DC BOX Type	Total INV Number
-		

Detail of the Assembly Structure

Table Details

2P24 (141 Table) , 2P14 (38 Table)

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Tischplanung

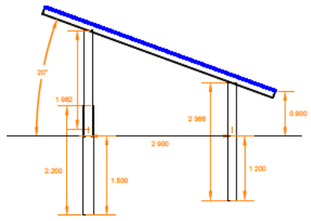
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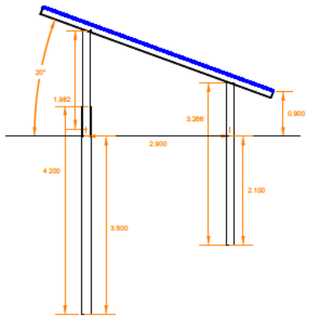
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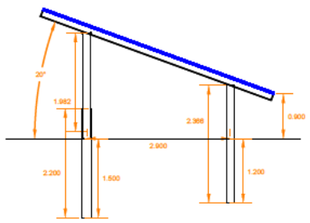
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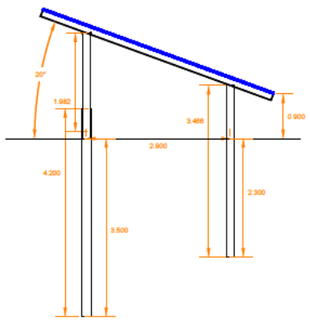
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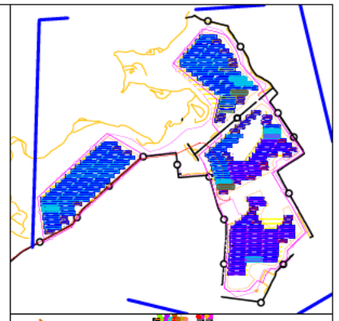
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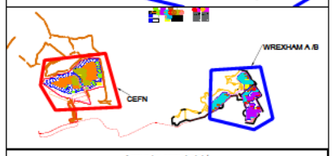


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Wrexham B 2Vx12 T-7





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	0.40	0.50	1
	0.50	0.60	3
	0.60	0.70	9

Tables with "0 / 0 Type" Posts (166 Nos)

Tables with "200 / 0 Type" Posts (5 Nos)

Tables with "400 / 200 Type" Posts (8 Nos)

Wrexham A&B Total 179 Nos Tables

Note-1: Pile coordinates has been set in accordance with 3D topographic coordinates. During site application, first and last row of each tables shall be marked on ground by surveyor.

Note-2: "Hatches with different colours" indicate that on those tables panels are lack of ground clearance due to small hills or pits on loca ion for each marked table. Local earthworks should be carried out related locations.

Note-3: "Cyan Cross Lines" indicate that on those tables East-West slopes are higher than ±15°.

Note-4: The tables marked with 'Blue Rectangle' are the tables that are located in the hollow or bump due to the East-West slope and may cause problems.

Description

	WREXHAM A 2P24 T-4
	WREXHAM B 2P24 T-5
	WREXHAM A 2P12 T-6
	WREXHAM B 2P12 T-7
	Fence
	Parsel

Project Description

DC Power	Module Type:	Total Module
4.915,20 kWp	JINKO SOLAR N TYPE BIFACIAL	7.680
AC Power	Inverter / DC BOX Type	Total INV Number
-		

Detail of the Assembly Structure

Table Details

2P24 (141 Table) , 2P14 (38 Table)

Orientation	Tilt angle	Row spacing	String size
South	20°	-	24 Module/string

Tischplanung

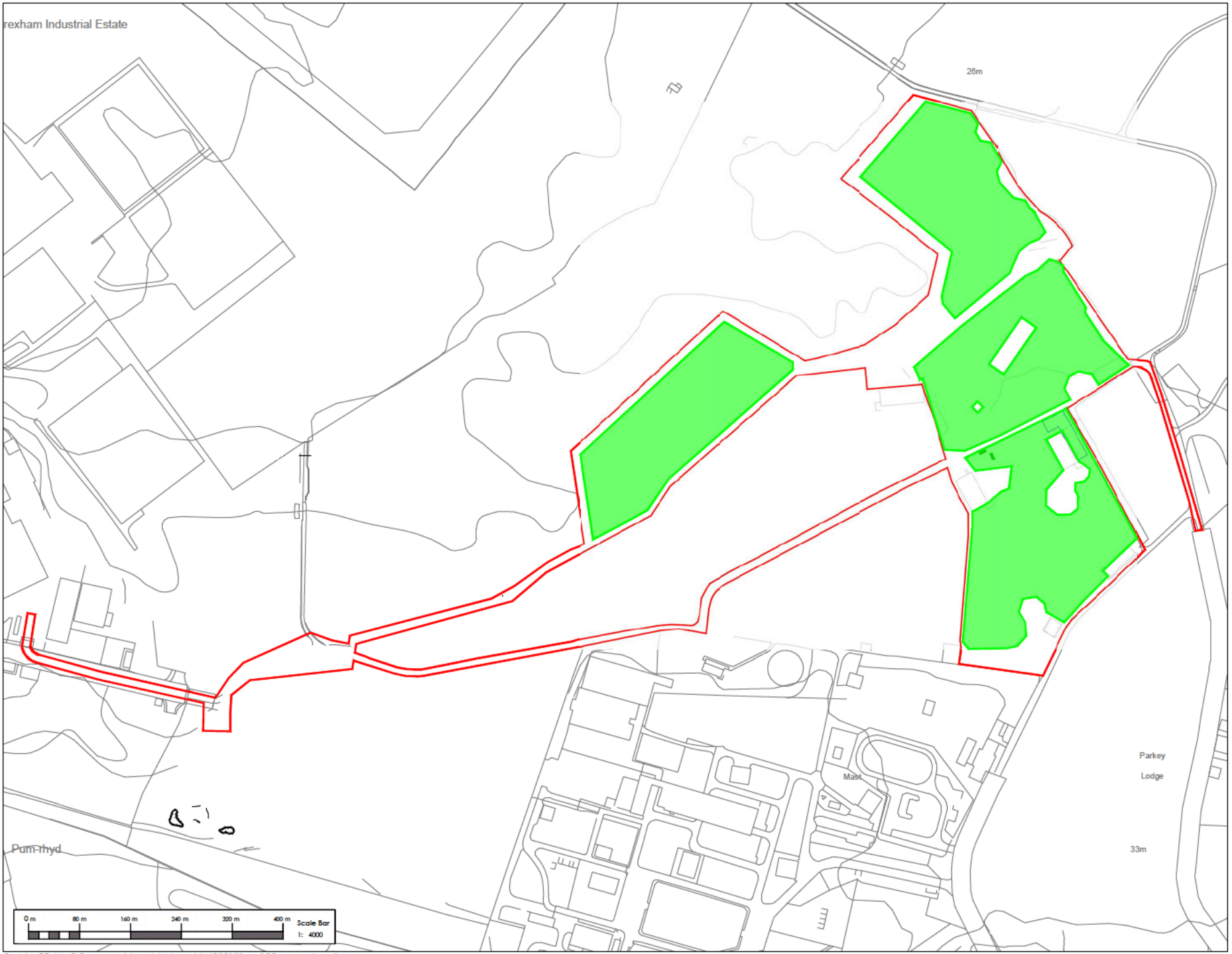
Preliminary

Project name:
Wrexham A-B

Drawing number:	Date:	Processor:	Examiner:
A098OC0	23.07.2025	Eren Gültekin	Eren Gültekin

Latitude:	Longitude:
-	-
Sun angle:	Date and time of the simulation:
-	

VERGO ENERJİ SİSTEMLERİ



KEY:

Lease boundary

Piling Zones

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innova

PROJECT:
Wrexham and Delt

TITLE:
Wrexham Piling Zones

DRAWING NUMBER:

VERSION:	A0	SHEET:	1 OF 1	SIZE:	A0
STATUS:	DRAFT	SCALE:	1:1000		

Contains OS data © Crown copyright and database right YYYY (Year of OS map purchased)

APPENDIX B

DYNAMIC SAMPLE BOREHOLE LOGS

GeoCon Site Investigations Ltd
Suite 2 Maple House, 39 Stockport Road,
Marple, Stockport.
SK6 6BD.
Tel: 0161 713 0174
Email: info@geoconsiteinvestigations.com
Website: www.geoconsiteinvestigations.com

DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				DS01
Project ID: GSI 2006	Date: 03-07-25 03-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS				STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					0.20	TOPSOIL: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone and sandstone.	TS	
0.30	ES					(0.90)	Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone. (ALLUVIUM)	ALV	
0.90	ES					1.10			
1.20	SPT	N12				1.30	Stiff brown mottled grey and dark grey sandy CLAY. (ALLUVIUM)	ALV	
1.50	ES					(0.70)	Stiff brown mottle grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine limestone.	ALV	
2.00	SPT	N20				2.00	Very stiff brown mottled grey slightly sandy CLAY.		
						(1.00)		ALV	
3.00	SPT	N26				3.00	Very stiff brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone.		
4.00	SPT	N20				(2.45)		ALV	
5.00	SPT	N25				5.45			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				DS02
Project ID: GSI 2006	Date: 03-07-25 03-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					0.20	MADE GROUND: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone, sandstone and brick. (TOPSOIL)	MG	
0.30	ES					(0.30) 0.50	Brown very clayey gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium limestone and sandstone. (ALLUVIUM)	ALV	
0.80	ES						Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone. (ALLUVIUM)		
1.20	SPT	N21					1.20 Becomes very stiff.		
2.00	ES					(2.80)		ALV	
2.00	SPT	N18							
3.00	SPT	N27				3.30			
						(0.70) 4.00	Very stiff silty CLAY with frequent relic rootlets. (ALLUVIUM)	ALV	
4.00	SPT	N23					Very stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone. (ALLUVIUM)		
5.00	SPT	N25				(1.45) 5.45		ALV	

Boring Progress and Water Observations

Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling

From	To	Hours

Water Added

From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				**DS03**
Project ID: GSI 2006	Date: 03-07-25 03-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					(0.30) 0.30	MADE GROUND: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone, sandstone, brick and conrete. (TOPSOIL)	MG	
0.40	ES						Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone and sandstone. (ALLUVIUM)		
0.70	ES						0.50 - 0.60 Becomes sandy.		
1.20	SPT	N20				(1.70)	1.50 Lens of sand.	ALV	
						2.00	1.90 Lens of sand.		
2.00	SPT	N20					Very stiff brown mottled grey slightly sandy CLAY.		
2.50	ES								
3.00	SPT	N19				(3.45)		ALV	
4.00	SPT	N24							
5.00	SPT	N22				5.45			

Boring Progress and Water Observations

Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling

From	To	Hours

Water Added

From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				**DS04**
Project ID: GSI 2006	Date: 03-07-25 03-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS				STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					0.15	TOPSOIL: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone and sandstone.	TS	
0.20	ES						Firm to very stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone. (ALLUVIUM)		
0.90	ES					(1.65)		ALV	
1.20	SPT	N18							
						1.80			
2.00	SPT	N19					Very stiff brown mottled grey slightly sandy CLAY. (ALLUVIUM)		
3.00	ES					(2.40)		ALV	
3.00	SPT	N22					3.50 Becomes brown.		
4.00	SPT	N25							
						4.20			
						(1.25)	Very stiff brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine limestone. (ALLUVIUM)	ALV	
5.00	SPT	N24							
						5.45			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				DS05
Project ID: GSI 2006	Date: 04-07-25 04-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS				STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					0.20	TOPSOIL: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone and sandstone.	TS	
0.40	ES					(1.30)	Firm to stiff brown mottled orangish brown sandy slightly gravelly CLAY. Gravel is subangular to subrouneded fine limestone and coal. (ALLUVIUM)	ALV	
1.00	ES								
1.20	SPT	N10	1			1.50			
2.00	SPT	N10				(0.90)	Medium dense brown slighlty clayey slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium limestone and sandstone. (ALLUVIUM)	ALV	
3.00	SPT	N28	2			2.40	Very stiff brown mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine limestone. (ALLUVIUM)		
4.00	SPT	N29	3			(3.05)		ALV	
5.00	SPT	N27				5.45			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				**DS06**
Project ID: GSI 2006	Date: 04-07-25 04-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.05	TOPSOIL: Grass over brown clayey gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone and sandstone.	TS	
0.20	ES						Firm to stiff brown mottled grey slightly sandy slihtly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone. (ALLUVIUM)		
0.40	ES								
0.80	ES								
1.20	SPT	N18				(2.25)		ALV	
1.50	ES								
2.00	SPT	N17				2.30			
							Very stiff brown slightly sandy CLAY. (ALLUVIUM)		
3.00	SPT	N17							
						(3.15)		ALV	
4.00	SPT	N23							
5.00	SPT	N27				5.45			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				**DS07**
Project ID: GSI 2006	Date: 04-07-25 04-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					(0.30) 0.30	TOPSOIL: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone and sandstone.	TS	
0.40	ES						Stiff to very firm brown mottled orangish brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium limestone and sandstone. (ALLUVIUM) 0.70 Becomes brown mottled grey.		
0.80	ES								
1.20	SPT	N17				(1.90)		ALV	
2.00	SPT	N27				2.20			
							Very stiff brown mottled grey slightly sandy CLAY. (ALLUVIUM)		
3.00	SPT	N24				(1.30) 3.50		ALV	
							Very stiff slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine limestone. (ALLUVIUM)		
4.00	ES								
4.00	SPT	N24				(1.95)		ALV	
5.00	SPT	N27				5.45			

Boring Progress and Water Observations

Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling

From	To	Hours

Water Added

From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

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DYNAMIC SAMPLE BOREHOLE LOG

GEOCON

Project				DYNAMIC SAMPLE BOREHOLE No
Solar Farm, Wrexham				**DS08**
Project ID: GSI 2006	Date: 04-07-25 04-07-25	Ground Level (m):	Co-Ordinates:	
Contractor: N/A				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.20	MADE GROUND: Grass over brown clayey slightly gravelly fine to medium SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium limestone and sandstone. (TOPSOIL)	MG	
0.30	ES					(0.60)	MADE GROUND: Brown slightly clayey gravelly fine to medium SAND. Gravel is angular to subrounded fine to coarse limestone, sandstone, mudstone and brick.	MG	
0.60	ES					0.80			
0.90	ES						Firm to very stiff brown mottled grey slightly sandy slightly gravely CLAY. Gravel is subangular to subrounded fine limestone. (ALLUVIUM)		
1.20	SPT	N20							
2.00	SPT	N30							
3.00	SPT	N28				(4.65)		ALV	
4.00	SPT	N28							
5.00	ES								
5.00	SPT	N27				5.45			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Location cleared of buried services using CAT & Genny. Service inspection pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres Scale 1:37.5	Client: Innova	Method / Plant Used: Competitor Dart	Logged By: DE

APPENDIX C

CHEICAL LABORATORY TESTING RESULTS

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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/07533
Issue Number: 1 **Date:** 29 July, 2025

Client:
Geocon Site Investigations Ltd
Arden House
Shepley Lane Industrial Estate
Hawk Green, Marple
Stockport
Greater Manchester
UK
SK6 7JW

Project Manager: *Use - Mailing list/*Use - Mailing list 2/*Use - M
Project Name: Solar Farm, Wrexham
Project Ref: GSI 2006
Order No: PO 23/0513
Date Samples Received: 10/07/25
Date Instructions Received: 11/07/25
Date Analysis Completed: 29/07/25

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME
UKAS TESTING 1247

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/1	25/07533/2	25/07533/3	25/07533/4	25/07533/5	25/07533/6	25/07533/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS02	DS03	DS04	DS05	DS06	DS07			
Depth to Top	0.90	0.30	0.10	0.20	0.40	0.40	0.40			
Depth To Bottom										
Date Sampled	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	04-Jul-25	04-Jul-25	04-Jul-25			
Sample Type	SOIL - ES	SOLID	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	7	4AE	6AE	6AE	6AE	6AE			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	6.6	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.51	8.29^U	5.93	7.71	7.16	7.78	7.99	pH	0.01	A-T-031s
Cyanide (total)$_A$$^{M\#}$	<1	<1^U	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Total Organic Carbon$_D$$^{M\#}$	0.44	0.21^U	4.25	1.32	0.60	1.07	0.41	% w/w	0.08	A-T-032s
Arsenic$_D$$^{M\#}$	7	6^U	5	7	4	7	7	mg/kg	1	A-T-024s
Cadmium$_D$	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-024s
Copper$_D$$^{M\#}$	22	11^U	19	15	9	23	16	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	29	16^U	17	21	20	32	23	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	26	20^U	49	88	73	50	28	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	40	15^U	19	25	18	39	29	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1^U	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	58	34^U	149	127	55	76	46	mg/kg	1	A-T-024s

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/1	25/07533/2	25/07533/3	25/07533/4	25/07533/5	25/07533/6	25/07533/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS02	DS03	DS04	DS05	DS06	DS07			
Depth to Top	0.90	0.30	0.10	0.20	0.40	0.40	0.40			
Depth To Bottom										
Date Sampled	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	04-Jul-25	04-Jul-25	04-Jul-25			
Sample Type	SOIL - ES	SOLID	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	7	4AE	6AE	6AE	6AE	6AE			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D^{\#}$	NAD	NAD^U	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_D$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_D$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/1	25/07533/2	25/07533/3	25/07533/4	25/07533/5	25/07533/6	25/07533/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS02	DS03	DS04	DS05	DS06	DS07			
Depth to Top	0.90	0.30	0.10	0.20	0.40	0.40	0.40			
Depth To Bottom										
Date Sampled	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	04-Jul-25	04-Jul-25	04-Jul-25			
Sample Type	SOIL - ES	SOLID	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	7	4AE	6AE	6AE	6AE	6AE			
Glycols (x15) (s)										
1,2-Butanediol (1,2-Butylene glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
1,2-Propanediol (1,2-Propylene glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
1,3-Butanediol (1,3-Butylene glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
1,3-Propanediol (1,3-Propylene glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
1,4-Butanediol (1,4-Butylene glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
1,5-Pentanediol$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
Diethylene glycol$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
Ethylene glycol (Monoethylene glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
Triethylene glycol$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
2-(2-butoxyethoxy)ethanol(buthyl glycol) $_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
2-butoxyethanol (butyl glycol) $_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MHw
2-butoxyethyl acetate $_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
2-isopropoxyethanol (isopropyl glycol)$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MHw
2-methyloxyethyl acetate$_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MH
3,3-oxydipropanol (dipropylene glycol) $_A$	Appended	Appended	Appended	Appended	Appended	Appended	Appended	mg/kg	10	Subcon RPS MHw

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/1	25/07533/2	25/07533/3	25/07533/4	25/07533/5	25/07533/6	25/07533/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS02	DS03	DS04	DS05	DS06	DS07			
Depth to Top	0.90	0.30	0.10	0.20	0.40	0.40	0.40			
Depth To Bottom										
Date Sampled	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	04-Jul-25	04-Jul-25	04-Jul-25			
Sample Type	SOIL - ES	SOLID	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	7	4AE	6AE	6AE	6AE	6AE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.10^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.10^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.20^U	0.06	<0.02	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.40^U	1.42	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	<0.40^U	1.59	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.50^U	1.86	<0.05	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.50^U	0.97	<0.05	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.70^U	0.65	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.60^U	1.39	<0.06	<0.06	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.40^U	0.20	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.80^U	1.38	<0.08	<0.08	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.10^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.30^U	1.10	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.30^U	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	<0.30^U	0.16	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.70^U	1.37	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	<0.80^U	12.2	<0.08	<0.08	<0.08	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/1	25/07533/2	25/07533/3	25/07533/4	25/07533/5	25/07533/6	25/07533/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS02	DS03	DS04	DS05	DS06	DS07			
Depth to Top	0.90	0.30	0.10	0.20	0.40	0.40	0.40			
Depth To Bottom										
Date Sampled	03-Jul-25	03-Jul-25	03-Jul-25	03-Jul-25	04-Jul-25	04-Jul-25	04-Jul-25			
Sample Type	SOIL - ES	SOLID	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	6AE	7	4AE	6AE	6AE	6AE	6AE			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<10	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<10^U	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<10^U	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<10^U	2	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	<10^U	39	<1	<1	<1	<1	mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	<10	42	<1	<1	<1	<1	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<10	2	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<10	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<10	2	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<10^U	26	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	<10^U	212	<1	<1	<1	<1	mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	<10	242	<1	<1	<1	<1	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	<1	<10	284	<1	<1	<1	<1	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.05^U	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS08									
Depth to Top	0.60									
Depth To Bottom										
Date Sampled	04-Jul-25									
Sample Type	SOIL - ES									
Sample Matrix Code	6AE									
% Stones >10mm$_A$	1.3							% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.12							pH	0.01	A-T-031s
Cyanide (total)$_A$$^{M\#}$	<1							mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2							mg/kg	0.2	A-T-050s
Total Organic Carbon$_D$$^{M\#}$	0.25							% w/w	0.08	A-T-032s
Arsenic$_D$$^{M\#}$	7							mg/kg	1	A-T-024s
Cadmium$_D$	<1.0							mg/kg	1	A-T-024s
Copper$_D$$^{M\#}$	19							mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	16							mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1							mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	29							mg/kg	1	A-T-024s
Mercury$_D$	<0.17							mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	24							mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	38							mg/kg	1	A-T-024s

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS08									
Depth to Top	0.60									
Depth To Bottom										
Date Sampled	04-Jul-25									
Sample Type	SOIL - ES									
Sample Matrix Code	6AE									
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	NAD									A-T-045
Asbestos Matrix (visual)$_{D}$	-									A-T-045
Asbestos Matrix (microscope)$_{D}$	-									A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A									A-T-045

Lab Sample ID	25/07533/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS08									
Depth to Top	0.60									
Depth To Bottom										
Date Sampled	04-Jul-25									
Sample Type	SOIL - ES									
Sample Matrix Code	6AE									
Glycols (x15) (s)										
1,2-Butanediol (1,2-Butylene glycol)A	Appended							mg/kg	10	Subcon RPS MH
1,2-Propanediol (1,2-Propylene glycol)A	Appended							mg/kg	10	Subcon RPS MH
1,3-Butanediol (1,3-Butylene glycol)A	Appended							mg/kg	10	Subcon RPS MH
1,3-Propanediol (1,3-Propylene glycol)A	Appended							mg/kg	10	Subcon RPS MH
1,4-Butanediol (1,4-Butylene glycol)A	Appended							mg/kg	10	Subcon RPS MH
1,5-PentanediolA	Appended							mg/kg	10	Subcon RPS MH
Diethylene glycolA	Appended							mg/kg	10	Subcon RPS MH
Ethylene glycol (Monoethylene glycol)A	Appended							mg/kg	10	Subcon RPS MH
Triethylene glycolA	Appended							mg/kg	10	Subcon RPS MH
2-(2-butoxyethoxy)ethanol(buthyl glycol) A	Appended							mg/kg	10	Subcon RPS MH
2-butoxyethanol (butyl glycol) A	Appended							mg/kg	10	Subcon RPS MHw
2-butoxyethyl acetate A	Appended							mg/kg	10	Subcon RPS MH
2-isopropoxyethanol (isopropyl glycol)A	Appended							mg/kg	10	Subcon RPS MHw
2-methyloxyethyl acetateA	Appended							mg/kg	10	Subcon RPS MH
3,3-oxydipropanol (dipropylene glycol) A	Appended							mg/kg	10	Subcon RPS MHw

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS08									
Depth to Top	0.60									
Depth To Bottom										
Date Sampled	04-Jul-25									
Sample Type	SOIL - ES									
Sample Matrix Code	6AE									
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02							mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06							mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08							mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08							mg/kg	0.01	A-T-019s

Envirolab Job Number: 25/07533

Client Project Name: Solar Farm, Wrexham

Client Project Ref: GSI 2006

Lab Sample ID	25/07533/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS08									
Depth to Top	0.60									
Depth To Bottom										
Date Sampled	04-Jul-25									
Sample Type	SOIL - ES									
Sample Matrix Code	6AE									
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01							mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01							mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1							mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1							mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1							mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1							mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1							mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1							mg/kg	1	A-T-055s
Total Aromatics$_A$	<1							mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	<1							mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

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

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

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

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

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

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

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

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

A TETRA TECH COMPANY

Certificate of Analysis

Report No.:	**25-06241-1**
Issue No.:	**1**
Date of Issue	**29/07/2025**
Customer Details:	Envirolab Ltd, 7 - 8 Sandpits Business Park, Mottram Road, Hyde, Greater Manchester, SK14 3AR, United Kingdom
Customer Contact:	Maleyka Owen-Agjef
Customer Order No.:	P0757500
Customer Reference:	Not Supplied
Quotation Reference:	Q25-03486 (Issue: 4)
Description:	8 geo samples
Date Received:	15/07/2025
Date Started:	21/07/2025
Date Completed:	29/07/2025
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None

[redacted]

Approved By: **Marco Lattughi, Operational Director**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.
This certificate shall not be reproduced except in full without the prior written approval of the laboratory.
Observations and interpretations are outside of the scope of UKAS accreditation.
Results reported herein relate only to the items supplied to the laboratory for testing.
Results on an Interim Report are not dry-weight corrected.
Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.
The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 25-06241-1

Customer Reference: Not Supplied

Customer Order No: P0757500

Customer Sample No	**25/07533/1**	**25/07533/2**	**25/07533/3**	**25/07533/4**	**25/07533/5**	**25/07533/6**	**25/07533/7**	**25/07533/8**	
RPS Sample No	105549	105550	105551	105552	105553	105554	105555	105556	
Sample Type	**GEO**	**GEO**	**GEO**	**GEO**	**GEO**	**GEO**	**GEO**	**GEO**	
Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
Sampling Date	04/07/2025	04/07/2025	04/07/2025	04/07/2025	04/07/2025	04/07/2025	04/07/2025	04/07/2025	
Determinand	**CAS No**	**Codes**	**SOP**	**RL**	**Units**				
1,2-butanediol (1,2-butylene glycol)	584-03-2	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-propanediol (1,2-propylene glycol)	57-55-6	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3-butanediol (1,3-butylene glycol)	107-88-0	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3-propanediol (1,3-propylene glycol)	504-63-2	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,4-butanediol (tetramethylene glycol)	110-63-4	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,5-pentanediol (pentamethylene glycol)	111-29-5	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
ethanediol (ethylene glycol)	107-21-1	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,2'-oxydiethanol (diethylene glycol)	111-46-6	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,2'-(ethylenedioxy)diethanol (triethylene glycol)	112-27-6	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-butoxyethanol (butyl glycol)	111-76-2	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
3,3'-oxydipropanol (dipropylene glycol)	25265-71-8	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-isopropoxyethanol (isopropyl glycol)	109-59-1	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-methoxyethyl acetate	110-49-6	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-butoxyethyl acetate	112-07-2	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-(2-butoxyethoxy)ethanol (butyl diglycol, DEGBE)	112-34-5	N	G042	10	mg/kg AR	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Deviating Samples

Report No.: 25-06241-1

Customer Reference: Not Supplied

Customer Order No: P0757500

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
105549	25/07533/1		04/07/2025	250 mL amber glass jar	No	
105550	25/07533/2		04/07/2025	250 mL amber glass jar	No	
105551	25/07533/3		04/07/2025	250 mL amber glass jar	No	
105552	25/07533/4		04/07/2025	250 mL amber glass jar	No	
105553	25/07533/5		04/07/2025	250 mL amber glass jar	No	
105554	25/07533/6		04/07/2025	250 mL amber glass jar	No	
105555	25/07533/7		04/07/2025	250 mL amber glass jar	No	
105556	25/07533/8		04/07/2025	250 mL amber glass jar	No	

Report No.: 25-06241-1

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	CONDENSATE	Condensate
Liquid	FOAM_LIQ	Liquid foam
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota (general)
Solid	BIOTA_F	Biota (fish)
Solid	BIOTA_SF	Biota (shellfish)
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	LATEX	Latex/Rubber
Solid	PACKAGING	Packaging material
Solid	PAPER	Paper
Solid	PLANT	Plant (vegetation)
Solid	POWDER	Powder
Solid	SWAB	Swab
Water	BAL	Ballast Water
Water	BIL	Bilge Water
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	MINEW	Mine Water
Water	MW	Mineral Water
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Unknown Water

Report No.: 25-06241-1

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
*	Modified standard method
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
DW (in units)	Results are expressed on a dry weight basis
L (in results)	Result is outside normal limits

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Where the dry solids value of a sample is low (<50%), reporting limits are automatically raised for all determinants analysed on an as-received basis.

Soil Typing	Description
Type 1	Clay - Brown
Type 2	Clay - Grey/Black
Type 3	Sand
Type 4	Top Soil (Standard)
Type 5	Top Soil (High Peat)
Type 6	Made Ground (>50% Clay)
Type 7	Made Ground (>50% Sand)
Type 8	Made Ground (>50% Top Soil)
Type X	Other

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/08015
Issue Number: 1 **Date:** 04 August, 2025

Client:
Geocon Site Investigations Ltd
Arden House
Shepley Lane Industrial Estate
Hawk Green, Marple
Stockport
Greater Manchester
UK
SK6 7JW

Project Manager: *Use - Mailing list/*Use - Mailing list 2/*Use - M
Project Name: Wrexham Solar Farm
Project Ref: GSI 2006
Order No: PO 25/570
Date Samples Received: 23/07/25
Date Instructions Received: 24/07/25
Date Analysis Completed: 04/08/25

Approved by:

[redacted]

Danielle Brierley
Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 25/08015

Client Project Name: Wrexham Solar Farm

Client Project Ref: GSI 2006

Lab Sample ID	25/08015/1	25/08015/2	25/08015/3	25/08015/4	25/08015/5	25/08015/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW US	SW DS	DS03	DS07	DS08	DS05				
Depth to Top										
Depth To Bottom										
Date Sampled	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25				
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
pH (w)$_{A}^{\#}$	7.93	7.86	7.42	9.62	7.45	7.83		pH	0.01	A-T-031w
Hardness Total$_{A}^{\#}$	275.6	267.1	502.7	207.3	532.2	335.9		mg/l Ca CO3	4	A-T-049w
Cyanide (total) (w)$_{A}^{\#}$	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/l	0.01	A-T-050w
Arsenic (dissolved)$_{A}^{\#}$	<1	<1	<1	<1	1	2		µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	0.3	<0.2	<0.2	0.3		µg/l	0.2	A-T-025w
Copper (dissolved)$_{A}^{\#}$	<4	<4	5	17	10	16		µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	<1	<1	14	3	3		µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	1	1	8	8	7	73		µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	<2	4	5	4	5		µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	<1	<1	2	2	<1		µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	29	30	9	12	5	18		µg/l	2	A-T-025w

Envirolab Job Number: 25/08015

Client Project Name: Wrexham Solar Farm

Client Project Ref: GSI 2006

Lab Sample ID	25/08015/1	25/08015/2	25/08015/3	25/08015/4	25/08015/5	25/08015/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW US	SW DS	DS03	DS07	DS08	DS05				
Depth to Top										
Depth To Bottom										
Date Sampled	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25				
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
Glycols (x 15) (w)										
1,2-Butanediol (1,2-Butylene glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
1,2-Propanediol (1,2-Propylene glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
1,3-Butanediol (1,3-Butylene glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
1,3-Propanediol (1,3-Propylene glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
1,4-Butanediol (1,4-Butylene glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
1,5-Pentanediol (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
Diethylene glycol (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
Ethylene glycol (Monoethylene glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
Triethylene glycol (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
2-(2-butoxyethoxy)ethanol(buthyl glycol) (w) $_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
2-butoxyethanol (butyl glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
2-butoxyethyl acetate (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
2-isopropoxyethanol (isopropyl glycol) (w)$_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
2-methyloxyethyl acetate (w) $_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw
3,3-oxydipropanol (dipropylene glycol) (w) $_A$	Appended	Appended	Appended	Appended	Appended	Appended		mg/l	1	Subcon RPS MHw

Envirolab Job Number: 25/08015

Client Project Name: Wrexham Solar Farm

Client Project Ref: GSI 2006

Lab Sample ID	25/08015/1	25/08015/2	25/08015/3	25/08015/4	25/08015/5	25/08015/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW US	SW DS	DS03	DS07	DS08	DS05				
Depth to Top										
Depth To Bottom										
Date Sampled	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25				
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	<0.01	0.08	0.02	<0.01	<0.01		µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	<0.01	0.07	0.03	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01	0.08	0.11	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01	0.03	0.07	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	0.04	0.09	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.03	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	0.02	0.04	<0.01	<0.01		µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01	0.08	0.10	<0.01	<0.01		µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	<0.01	0.74	0.47	<0.01	<0.01		µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	<0.01	0.04	0.01	0.01	<0.01		µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01^U	<0.01^U	<0.01^U	0.03^U	<0.01^U	<0.01^U		µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	0.01	<0.01	0.13	0.06	0.03	<0.01		µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01	<0.01	0.44	0.33	<0.01	0.03		µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	0.01	<0.01	1.75	1.39	0.04	0.03		µg/l	0.01	A-T-019w

Envirolab Job Number: 25/08015

Client Project Name: Wrexham Solar Farm

Client Project Ref: GSI 2006

Lab Sample ID	25/08015/1	25/08015/2	25/08015/3	25/08015/4	25/08015/5	25/08015/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW US	SW DS	DS03	DS07	DS08	DS05				
Depth to Top										
Depth To Bottom										
Date Sampled	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25	22-Jul-25				
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW	WATER - SW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5	<5	<5	8	<5		µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	<5	<5	<5	8	<5		µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	<5	<5	<5	5	<5		µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	<5	21	10	16	<5		µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A^{\#}$	<10	<10	30	<10	<10	<10		µg/l	10	A-T-055w
Total Aromatics $(w)_A^{\#}$	<10	<10	51	10	21	<10		µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10	<10	51	10	29	<10		µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

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

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

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

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

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

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

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

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

Envirolab Deviating Samples Report

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

Client: Geocon Site Investigations Ltd, Arden House, Shepley Lane Industrial Estate , Hawk Green, Marple, Stockport, Greater Manchester, UK, SK6 7JW

Project: Wrexham Solar Farm

Clients Project No: GSI 2006

Project No: 25/08015

Date Received: 24/07/2025 (am)

Cool Box Temperatures (°C): 19.7 & 19.9

NO DEVIATIONS IDENTIFIED

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

Envirolab Analysis Dates

Lab Sample ID	25/08015/1	25/08015/2	25/08015/3	25/08015/4	25/08015/5	25/08015/6
Client Sample No						
Client Sample ID/Depth	SW US	SW DS	DS03	DS07	DS08	DS05
Date Sampled	22/07/25	22/07/25	22/07/25	22/07/25	22/07/25	22/07/25
A-T-019w	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025
A-T-022w	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025
A-T-025w	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025
A-T-031w	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025
A-T-042wTCN	25/07/2025	25/07/2025	25/07/2025	25/07/2025	25/07/2025	25/07/2025
A-T-049w	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
A-T-050w	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025
A-T-055w	29/07/2025	29/07/2025	29/07/2025	29/07/2025	29/07/2025	29/07/2025
Calc-As Recd	29/07/2025	29/07/2025	29/07/2025	29/07/2025	29/07/2025	29/07/2025

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

End of Report

A TETRA TECH COMPANY

Certificate of Analysis

Report No.:	**25-06633-1**
Issue No.:	**1**
Date of Issue	**30/07/2025**
Customer Details:	Envirolab Ltd, 7 - 8 Sandpits Business Park, Mottram Road, Hyde, Greater Manchester, SK14 3AR, United Kingdom
Customer Contact:	Maleyka Owen-Agjef
Customer Order No.:	P0757595
Customer Reference:	Not Supplied
Quotation Reference:	Q25-03484 (Issue: 5)
Description:	6 water samples
Date Received:	21/07/2025
Date Started:	29/07/2025
Date Completed:	30/07/2025
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None



Approved By: **Marco Lattughi, Operational Director**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.
This certificate shall not be reproduced except in full without the prior written approval of the laboratory.
Observations and interpretations are outside of the scope of UKAS accreditation.
Results reported herein relate only to the items supplied to the laboratory for testing.
Results on an Interim Report are not dry-weight corrected.
Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.
The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

RPS Environmental Management Limited trading as RPS Mountainheath. Registered in England No. 01756175.
13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 25-06633-1

Customer Reference: Not Supplied

Customer Order No: P0757595

Customer Sample No	25/08015/1	25/08015/2	25/08015/3	25/08015/4	25/08015/5	25/08015/6
RPS Sample No	107159	107160	107161	107162	107163	107164
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
Sample Matrix	SW	SW	SW	SW	SW	SW
Sampling Date	22/07/2025	22/07/2025	22/07/2025	22/07/2025	22/07/2025	22/07/2025

Determinand	CAS No	Codes	SOP	RL	Units						
1,2-butanediol (1,2-butylene glycol)	584-03-2	N	G041	1	mg/L	< 1.0	2.7	< 1.0	< 1.0	< 1.0	< 1.0
1,2-propanediol (1,2-propylene glycol)	57-55-6	N	G041	1	mg/L	< 1.0	2.8	< 1.0	< 1.0	< 1.0	< 1.0
1,3-butanediol (1,3-butylene glycol)	107-88-0	N	G041	1	mg/L	< 1.0	2.6	< 1.0	< 1.0	< 1.0	< 1.0
1,3-propanediol (1,3-propylene glycol)	504-63-2	N	G041	1	mg/L	< 1.0	2.7	< 1.0	< 1.0	< 1.0	< 1.0
1,4-butanediol (tetramethylene glycol)	110-63-4	N	G041	1	mg/L	< 1.0	2.7	< 1.0	< 1.0	< 1.0	< 1.0
1,5-pentanediol (pentamethylene glycol)	111-29-5	N	G041	1	mg/L	< 1.0	2.6	< 1.0	< 1.0	< 1.0	< 1.0
ethanediol (ethylene glycol)	107-21-1	N	G041	1	mg/L	< 1.0	3.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2'-oxydiethanol (diethylene glycol)	111-46-6	N	G041	1	mg/L	< 1.0	2.5	< 1.0	< 1.0	< 1.0	< 1.0
2,2'-(ethylenedioxy)diethanol (triethylene glycol)	112-27-6	N	G041	1	mg/L	1.2	2.6	1.0	< 1.0	< 1.0	< 1.0
2-butoxyethanol (butyl glycol)	111-76-2	N	G041	1	mg/L	< 1.0	3.0	< 1.0	< 1.0	< 1.0	< 1.0
3,3'-oxydipropanol (dipropylene glycol)	25265-71-8	N	G041	1	mg/L	< 1.0	2.7	< 1.0	< 1.0	< 1.0	< 1.0
2-isopropoxyethanol (isopropyl glycol)	109-59-1	N	G041	1	mg/L	< 1.0	3.7	< 1.0	< 1.0	< 1.0	< 1.0
2-methoxyethyl acetate	110-49-6	N	G041	1	mg/L	< 1.0	3.8	< 1.0	< 1.0	< 1.0	< 1.0
2-butoxyethyl acetate	112-07-2	N	G041	1	mg/L	< 1.0	3.2	< 1.0	< 1.0	< 1.0	< 1.0
2-(2-butoxyethoxy)ethanol (butyl diglycol, DEGBE)	112-34-5	N	G041	1	mg/L	< 1.0	2.7	< 1.0	< 1.0	< 1.0	< 1.0

Deviating Samples

Report No.: 25-06633-1

Customer Reference: Not Supplied

Customer Order No: P0757595

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
107159	25/08015/1		22/07/2025	GAV40 40 mL amber glass vial	No	
107160	25/08015/2		22/07/2025	GAV40 40 mL amber glass vial	No	
107161	25/08015/3		22/07/2025	GAV40 40 mL amber glass vial	No	
107162	25/08015/4		22/07/2025	GAV40 40 mL amber glass vial	No	
107163	25/08015/5		22/07/2025	GAV40 40 mL amber glass vial	No	
107164	25/08015/6		22/07/2025	GAV40 40 mL amber glass vial	No	

A TETRA TECH COMPANY

Report No.: 25-06633-1

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	CONDENSATE	Condensate
Liquid	FOAM_LIQ	Liquid foam
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota (general)
Solid	BIOTA_F	Biota (fish)
Solid	BIOTA_SF	Biota (shellfish)
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	LATEX	Latex/Rubber
Solid	PACKAGING	Packaging material
Solid	PAPER	Paper
Solid	PLANT	Plant (vegetation)
Solid	POWDER	Powder
Solid	SWAB	Swab
Water	BAL	Ballast Water
Water	BIL	Bilge Water
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	MINEW	Mine Water
Water	MW	Mineral Water
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Unknown Water

Report No.: 25-06633-1

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
*	Modified standard method
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
DW (in units)	Results are expressed on a dry weight basis
L (in results)	Result is outside normal limits

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.