

Matthew Phillips
Planning Officer
Wrexham County Borough Council

Dear Matthew Phillips,

Date 2023/06/05

Please see below for response to comments on the memorandum received from Angela Guy, Contaminated Land Officer at Wrexham County Borough Council (CLO WCBC) on May 31st 2023. Comments received are shown in bold, with our responses shown below.

1. **The Contaminated Land Team recommended a condition to assess for potential land contamination due to the mound at the site and likelihood of made ground being present. It is noted that the contamination assessment identified extensive made ground at the site, it is understood that the on-site mound has now been removed but please can this be confirmed.**

- a. We can confirm that the on-site mound has been removed. The intention is that the details surrounding the removal of the mound are included in the verification report to be submitted at the end of the earthworks stage. Briefly, following the demolition of the Kop P.P. O'Connor Ltd undertook the 6 trial pits described in section 3.1.3 and 3.3.9 of the report so that chemical testing and waste classification could be undertaken prior to earthworks to remove the mound. The outcome of the testing and assessment are described in Sections 4.4.5 of the report. The mound was then removed by P.P. O'Connor, and excavated material taken to permitted facilities between 20th January – 17th February 2023. Once the mound had been removed, Geotechnics Ltd were commissioned to undertake the 2nd phase of the main ground investigation at the site in the area of the former Kop, with these exploratory holes undertaken from the new site level (similar to the original site level adjacent to the Kop mound).

2. **There is no explanation of the potential source of hydrocarbon contamination identified in TP104, was there anything evident that could explain its presence. What was the reason for not delineating and further investigating the area of hydrocarbons? Paragraphs 10.3.3 and 10.3.4 discuss the use of a Land Quality**

Ramboll
2nd Floor, The Exchange
St. John Street
Chester
CH1 1DA
United Kingdom

T +44 1244 311855
<https://uk.ramboll.com>

Ref 1620012485

Ramboll UK Limited
Registered in England & Wales
Company No: 03659970
Registered office:
240 Blackfriars Road
London
SE1 8NW

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Method Statement (LQMS) and Verification Plan, this would include a watching brief during the earthworks for unforeseen ground conditions including potential contamination concerns. This is considered a suitable proposal as it will address unexpected contamination that may be encountered as well as works in the vicinity of TP104.

- This information was omitted from the report in error. The trial pit log (Figure 1) for TP104 shows that the hydrocarbon impact was identified in the South East corner of the trial pit, adjacent to the site boundary and directly beneath a concrete foundation, in the natural soils directly beneath the made ground. This suggests that the contamination was from an off-site source, likely to be the adjacent former garage.
- The assessment for Human Health (Sections 4.1, 4.2, 4.3 and 4.4.4 of the report), did not identify an exceedance of the Generic Assessment Criteria for TPH. Furthermore, TPH was not identified in groundwater in the underlying Glaciofluvial Sheet Deposits (described in Section 5.2 and 5.3 of the report).
- As the design for the Kop and public realm area in front of the Kop did not require any significant excavations, and as the concentrations identified were below the human health assessment criteria, it was decided that further delineation works would not be necessary, subject to confirmation of this approach with the Local Authority. If further ground investigation works are deemed to be necessary by the Local Authority then we would recommend that this work is undertaken as part of the verification works, fully described in the verification plan that will be included in the LQMS.

TRIAL PIT RECORD - Trial Pit

DRAFT

Project	Wrexham FC : New Kop Stand - Ground Investigation	Engineer	Ramboll UK Limited	Project No.	PN224453
Client	Wrexham AFC	National Grid Coordinates	332890.0 E 350899.0 N	Location ID	TP104
				Ground Level	87.53 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.25	B			MADE GROUND: Light grey/white sandy angular fine to coarse gravel of limestone.	0.10		87.43
0.25	ES			MADE GROUND: Light greyish brown very sandy angular fine to coarse gravel of concrete, glass, slate, metal, plastic, and pottery. Medium to high angular cobble content of concrete. Clayey in places. Occasional rootlets. Occasional tree roots.	0.40		87.13
0.50	ES				0.60		86.93
0.70	B			MADE GROUND: Stiff to very stiff friable dark brown slightly gravelly sandy clay. Gravel is angular to subangular fine to coarse of sandstone.			
				At 0.55m 50mm grey ducting (Possible redundant BT service) trending North East to South West.			
1.20	B			Orangish brown sandy subangular to subrounded fine to coarse GRAVEL of sandstone. Medium subangular to subrounded cobble content of sandstone.			
1.50	ES			Clayey in places. Low boulder content of sandstone in places. Occasional rootlets. Between 0.9-1.3m, locally grading to orangish brown gravelly sand. Gravel is subangular to subrounded fine to coarse of sandstone.			
				Between 1.0-1.8m in Southeast corner only: grey concrete slab with plastic sheeting. Strong hydrocarbon odour.			
2.50	B						
				End of Excavation	3.00		84.53

Figure 1: Trial pit log for TP104

- The interim report covered the gas monitoring that had been undertaken up until that time, some installations required a further 4 monitoring rounds. This work has since been undertaken and the second issue of the report details the findings, however some parts of the report have not been updated, paragraph 6.1.4, Table 8.1 and 10.1.2 & 10.1.11 for instance. Were BH's 104, 105 and 106 on the mound and was their purpose to monitor the gas potential within the mound, or had the mound been removed prior to their installation (it is noted that paragraph 4.4.5 does state the material has been removed from site but it is not clear at what time this was in relation to the intrusive investigation works taking place)?

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- a. We confirm that BH104, 105 and 106 were undertaken by Geotechnics Ltd (20th – 23rd February 2023) following the removal of the mound by P. P. O'Connor (excavated material taken to permitted facilities between 20th January – 17th February 2023). The ground gas installations at BH104, BH105 and BH016 were installed to monitor the gas potential of the ground underlying the mound of material that was removed.
- b. Data from the additional monitoring rounds were broadly within the range of concentrations observed during previous rounds, therefore the changes to the table were minor. No changes were therefore made to the outcomes of the Risk Assessment (Section X), therefore no changes were made to Sections 10.1.2 and 10.1.11.

4. Were TP100 – 104 below the footprint of the mound and therefore this sampling was undertaken after the removal of the mound?

- a. Exploratory locations TP100 – 104 were not within the footprint of the mound, as shown in the figure below (taken from page 65 of the report).
- b. We can confirm that TP100 – 104 were undertaken by Geotechnics Ltd during the 2nd phase of the GI (15th & 16th February 2023), following the removal of the mound by P. P. O'Connor (excavated material taken to permitted facilities between 20th January – 17th February 2023).

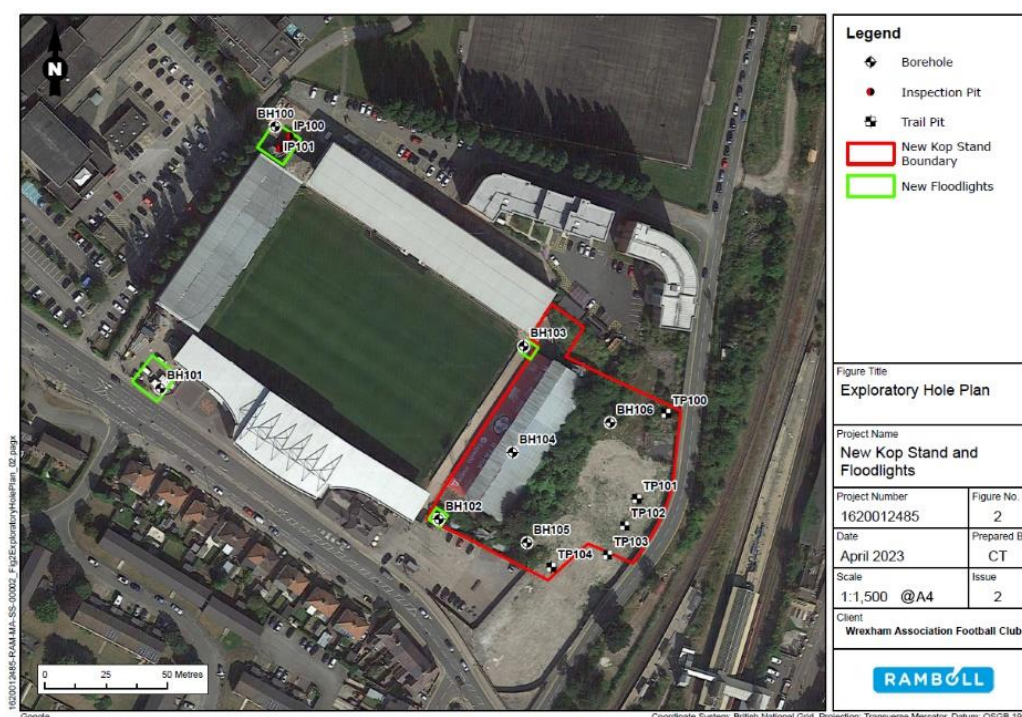


Figure 2: Exploratory Hole Plan for exploratory location undertaken by Geotechnics Ltd during Phase I and Phase II of the GI.

5. In paragraph 4.4.5 it is stated that 15 samples of the mound beneath the old Kop Stand were taken by P.P O'Conner Limited as part of the additional ground investigation, the samples were screened for metals, inorganic, PAHs, TPH, VOC including tentatively identified compounds (TICs) and SVOC including TICs and asbestos screening. No trial pit logs, soil descriptions or photos were provided for the mound material. Was a plan provided of the sampling locations?

- a. A plan of Trial pit locations is shown in Figure 3 below. We can confirm that the 6 no. trial pits were located on the mound, within the footprint of the former Kop Stand.

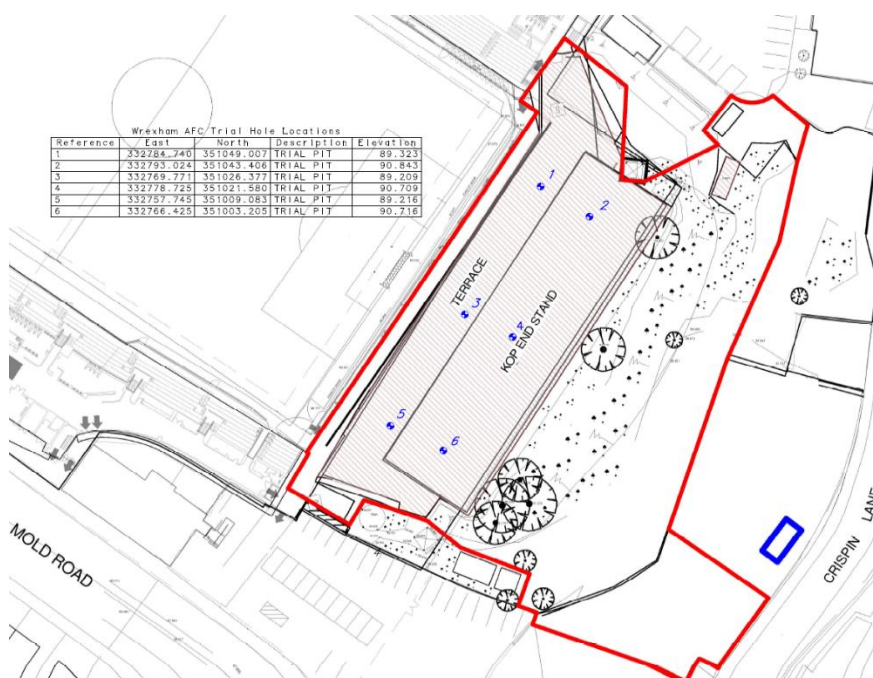


Figure 3: Trial pit location plan provided by P. P O'Connor.

- b. We confirm that no trial pits logs or detailed soil descriptions were provided by P. P. O'Connor. Laboratory testing has provided a basic soil description, shown in Figure 4 below. Photos of the trial pits have been provided, however they have not been labelled by P. P. O'Connor, but are provided in Appendix 1. We will be providing feedback to P. P. O'Connor to rectify this in due course, and plan to provide this information within a verification report.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
115056-1	TP1	0.50	Loamy Sand with Gravel	-	-	13.3
115056-2	TP1	1.50	Loamy Sand with Gravel	-	-	13.9
115056-3	TP2	0.50	Loamy Sand with Gravel	-	-	17.6
115056-4	TP2	1.50	Sand with Gravel	-	-	11.7
115056-5	TP3	0.50	Loamy Sand with Gravel	-	-	15.0
115056-6	TP3	1.50	Loamy Sand with Gravel	-	-	10.3
115056-7	TP4	0.50	Loamy Sand with Gravel	-	-	18.6
115056-8	TP4	1.50	Loamy Sand with Gravel	-	-	11.9
115056-9	TP5	0.50	Loamy Sand with Gravel	-	-	3.1
115056-10	TP5	1.50	Loamy Sand with Gravel	-	-	12.7
115056-11	TP6	0.50	Loamy Sand with Gravel & Roots	-	-	13.5
115056-12	TP6	1.00	Loamy Sand with Gravel	-	-	13.5

Figure 4: Laboratory soil descriptions for trial pits undertaken by P. P. O' Connor

Please let me know if you have any further questions or require any further information to close out to enable the discharge of planning conditions 5, 6 and 10.

Yours sincerely



Bethan Smith

Environmental Consultant

M +447866129480

bethan.smith@ramboll.com

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Appendix 1



















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