Adler & Allan
ENVIRONMENTAL RISK REDUCTION

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FAO James Wakeford
Senior Water Quality Permitting Officer
Natural Resources Wales

13th May 2022

Dear James,

LLANGENNECH DERAILMENT SITE – MONITORING PROGRAMME FOR PERMIT COMPLIANCE

We write to confirm the proposed monitoring arrangements for the surface water discharge permit at the Llangennech train derailment site.

Monitoring Frequency and Duration of Programme

We are currently maintaining the programme of weekly surface water monitoring at the site. However, we are anticipating that this will be reduced to a monthly frequency shortly. We would therefore propose that sampling for permit compliance be undertaken on a monthly basis. The current commission comes to an end in November 2023, so we would anticipate undertaking this monitoring for a period of approximately 18 months as things stand.

Monitoring Locations

A total of five monitoring locations are proposed. These are depicted on the appended drawing and described as follows:

1. Morlais Upstream (SW5) – from the bridge on the B4297 Pontarddulais Road, southwest of and adjacent to Llangennech Rugby Club
2. Morlais Downstream (SW3) – upstream from the confluence of the Afon Morlais and the Afon Loughor.
3. Interceptor 1 Output – from the site's northern drainage ditch, at the discharge from the interceptor.
4. Interceptor 2 Output – from the site's southern drainage ditch, at the discharge from the interceptor.
5. Southern Ditch Upstream – from the site's southern drainage ditch, immediately upstream of the discharge from the culverted section.

The suite of analysis at each location is detailed in the tables below.

Table 1 Morlais Upstream (SW5) and Downstream (SW3)

Substance	Target (µg/L)	Limit of Detection (µg/L)
Mercury	0.3241	0.01
Manganese	50.74	2
Hexachlorobutadiene	1.864	0.5
Barium	8.274	3
Pyrene	0.02869	0.005
Chysene	0.0263	0.005
Chloromethane	2.0226	0.5
Chloroethane	1.8478	0.5
1,1-Dichloroethene (1,1 DCE)	1.84603	0.5
1,1-Dichloropropene	1.84603	0.5
1,2,3 Trichloropropane	1.8481	0.5
1,2 Dibromoethane	1.23706	0.5
Total of trichlorobenzene	3.762	3*
Fluoranthene	n/a	0.5
Benzo(a)pyrene	n/a	1
1,2,3-Trichlorobenzene	n/a	3
1,2,4-Trichlorobenzene	n/a	3
2-Chlorotoluene	n/a	3
Bromomethane	n/a	1
Trichlorofluoromethane	n/a	3
trans-1-3-Dichloropropene	n/a	2
cis-1-3-Dichloropropene	n/a	2
(Z) -1-3-Dichloropropene	n/a	2
Bromobenzene	n/a	2
4-Isopropyltoluene	n/a	3
Mercury	n/a	1
Pyrene	n/a	0.5
Chrysene	n/a	0.5

Table 2 Interceptor 1 Output

Substance	Target (µg/L)	Limit of Detection (µg/L)
Mercury	0.3241	0.01
Hexachlorobutadiene	1.864	0.5
Barium	8.274	3
Pyrene	0.02869	0.005
Chysene	0.0263	0.005
Chloromethane	2.0226	0.5
Chloroethane	1.8478	0.5
1,1-Dichloroethene (1,1 DCE)	1.84603	0.5
1,1-Dichloropropene	1.84603	0.5
1,2,3 Trichloropropane	1.8481	0.5
1,2 Dibromoethane	1.23706	0.5
Fluoranthene	n/a	0.5
Benzo(a)pyrene	n/a	1
1,2,3-Trichlorobenzene	n/a	3
1,2,4-Trichlorobenzene	n/a	3
2-Chlorotoluene	n/a	3
Bromomethane	n/a	1
Trichlorofluoromethane	n/a	3
trans-1-3-Dichloropropene	n/a	2
cis-1-3-Dichloropropene	n/a	2
(Z) -1-3-Dichloropropene	n/a	2
Bromobenzene	n/a	2
4-Isopropyltoluene	n/a	3
Fluoranthene	n/a	0.5

Table 3 Interceptor 2 Output

Substance	Target (µg/L)	Limit of Detection (µg/L)
Hexachlorobutadiene	1.898	0.5
Manganese	50.74	2
Chloromethane	2.0506	0.5
Chloroethane	1.88018	0.5
1,1-Dichloroethene (1,1 DCE)	1.84603	0.5
1,1-Dichloropropene	1.889	0.5
1,2-Dibromoethane	1.26006	0.5
Total of Trichlorobenzene	3.762	3*
Fluoranthene	n/a	0.5
Benzo(a)pyrene	n/a	1
1,2,3-Trichlorobenzene	n/a	3
1,2,4-Trichlorobenzene	n/a	3
Mercury	n/a	1
Pyrene	n/a	0.5
Chrysene	n/a	0.5
2-Chlorotoluene	n/a	3
Bromomethane	n/a	1
Trichlorofluoromethane	n/a	3
trans-1-3-Dichloropropene	n/a	2
cis-1-3-Dichloropropene	n/a	2
Bromobenzene	n/a	2
4-Isopropyltoluene	n/a	3

Table 4 Southern Ditch Upstream

Substance	Target (µg/L)	Limit of Detection (µg/L)
Hexachlorobutadiene	1.898	0.5
Manganese	50.74	2
Chloromethane	2.0506	0.5
Chloroethane	1.88018	0.5
1,1-Dichloroethene (1,1 DCE)	1.84603	0.5
1,1-Dichloropropene	1.889	0.5
1,2-Dibromoethane	1.26006	0.5
Total of Trichlorobenzene	3.762	3*
Fluoranthene	n/a	0.5
Benzo(a)pyrene	n/a	1
1,2,3-Trichlorobenzene	n/a	3
1,2,4-Trichlorobenzene	n/a	3
Mercury	n/a	1
Pyrene	n/a	0.5
Chrysene	n/a	0.5
2-Chlorotoluene	n/a	3
Bromomethane	n/a	1
Trichlorofluoromethane	n/a	3
trans-1-3-Dichloropropene	n/a	2
cis-1-3-Dichloropropene	n/a	2
Bromobenzene	n/a	2
4-Isopropyltoluene	n/a	3

The sampling methodology to be used at all locations is described in the appended operating procedure.

Please do not hesitate to contact me if you require any further information.

Kind regards

Nathan Male

Technical Manager