

Mr S Ross,  
Natural Resources Wales,  
Chester Road,  
Buckley,  
Flintshire.  
CH7 3AJ

23<sup>rd</sup> January 2017

Our ref: GNF/NRWL230117

Dear Stuart,

**Re: Permit No. GP3830BG Pen-Y-Bont Landfill Site – Revision to Leachate level Compliance Limit and proposal for amendments to Monitoring frequencies.**

**Leachate Compliance Limit**

Further to earlier correspondence FCC would like to formally request the instigation of the revised leachate compliance limit, as previously agreed in your letter of 19 October 2015 which concerned the 2015 Hydrogeological Risk Assessment Review for Pen-Y-Bont landfill site, now that the site is fully capped.

Section 3 of your letter confirmed that a standardised 43 mAOD leachate level based on hydraulic containment was accepted but that this revised leachate level limit should not be adopted until the site was fully capped. As waste acceptance at the site ceased on **28<sup>th</sup> October 2016** with the permanent capping completed on **19<sup>th</sup> November 2016**, it is now proposed that the revised leachate level limit be adopted to replace the 1m above base limit listed in Table S4.1 of the Permit.

In addition to the revised leachate compliance limit the HRA review also proposed revisions to compliance limits for groundwater quality which were agreed in the same letter, these limits also require to be adopted for the named boreholes replacing those listed in Table S4.4 of the Permit. For completeness the changes to compliance limits are presented below.

Monitoring Type	Monitoring Location	Parameter	Existing Compliance Limit	Revised Compliance Limit
Groundwater Boreholes	BH2	Ammonical Nitrogen	1.30 mg/l	1.44 mg/l
	BH10		1.10 mg/l	1.00 mg/l
	BH13		0.70 mg/l	0.92 mg/l
	T10		1.90 mg/l	2.49 mg/l
	BH1, BH2, BH3, BH3A, BH4, BH5, T01, T02, T03, T04, T05, T06, T07, T08, T09, T11 T13	Cadmium <sup>1</sup>	0.0005 mg/l	0.001 mg/l
	BH1, BH2, BH3, BH3A, BH4, BH5, T01, T02, T03, T04, T05, T06, T07, T08, T09, T11, T13.	Mecoprop <sup>2</sup>	0.04ug/l	0.1ug/l
Leachate Level	All leachate wells	Leachate level (mAOD)	Various <sup>3</sup>	43 mAOD <sup>4</sup>

**Notes:**

- <sup>1</sup> The limit at borehole T12 will remain at 0.006mg/l and those boreholes that already have the cadmium limit of 0.001mg/l will stay the same.
- <sup>2</sup> The limit at several boreholes is already 0.1ug/l and this limit will stay the same for these.
- <sup>3</sup> The leachate level limits expressed in mAOD will vary between the wells as the current limit is expressed in metres above the base of the cell.
- <sup>4</sup> As agreed the revised leachate level limit will only be adopted once the site is fully capped.

**Groundwater Monitoring**

Tables s4.4 and s4.10 of the site Permit require the sampling of groundwater and the measurement of groundwater levels to be carried out at a frequency of monthly.

- **Groundwater Levels**

It is proposed that the frequency for groundwater level monitoring be reduced from monthly to quarterly. This is in line with the typical frequency proposed in table 6.9 of LFTGN02 which advises that level readings be decreased to “*quarterly or six-monthly if normal seasonal fluctuations have been established*” and considered adequate to monitor ongoing trends and level information.

- **Groundwater Sampling**

The guidance in Table 6.9 of TGN02 recommends that once initial characterisation of groundwater quality is complete, the frequency should be as follows;

- Routine (indicators), quarterly but decrease to biannually or annually if stable conditions are proved or for low-risk sites.
- Routine (ongoing characterisation), biannually but decrease to annually if stable conditions are proved or for low risk sites.

Since the composition of the surrounding groundwater has been well characterised at Pen-Y-Bont through monthly monitoring since the site opened, it is therefore proposed that monthly groundwater quality monitoring should cease and the monthly determinands be added to the quarterly suite going forward.

**Leachate Monitoring**

Tables s4.8 of the site Permit requires the sampling of leachate to be carried out at a frequency of quarterly

- **Leachate Sampling**

The guidance in Table 6.9 of TGN02 recommends that once initial characterisation of leachate quality is complete, the frequency should be as follows;

- Routine (indicators), Six-monthly.
- Routine (ongoing characterisation), Annually.

Since the leachate composition is well established and the site has a final engineered cap across all cells it is proposed to reduce the sampling frequency to six-monthly. In addition it is proposed that the analysis suite for the six-monthly visit be reduced from those parameters listed in Table S4.8 to a more basic suite of ‘indicator’ substances comprising pH, EC, Ammonical Nitrogen, Chloride, COD and BOD. No changes are proposed to the annual analytical suite.

In addition no changes are proposed to the frequency of leachate level monitoring which will remain at a monthly frequency specified in Table S4.1

We hope you will agree that these proposals are in line with recommendations within Agency guidance. As the Permit condition 3.6.1 allows variation via written agreement we would be grateful for your approval in order to make these changes in time for the February 2017 monitoring visits which is when the next quarterly groundwater and leachate sampling is due.

If you have any queries regarding the above please do not hesitate to contact me on my mobile phone or by e-mail.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Geoff Forrest'.

**Geoff Forrest**

**Compliance Advisor**

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