Chadwich Lane Quarry Landfill Site

Revision 1.00

Landfill closure report

Background

1.0 Area of the site progressing to definite closure

2.0 Waste stability

3.1 Site infrastructure

All equipment, weighbridge offices etc to be removed prior to site going into closure.

3.2 Leachate infrastructure

Not required at inert landfill.

3.3 Landfill gas infrastructure

Table 1:Landfill Gas Boreholes

Phase 1	**MP1.1- MP1.2**	Monitoring Point in waste	Design detail on ESSD 7
Phase 2	**MP2.1- MP2.2**	Monitoring Point in waste	Design detail on ESSD 7
Phase 3	**MP3.1**	Monitoring Point in waste	Design detail on ESSD 7
Perimeter	**BH 3,4,5**	Monitoring Borehole outside waste. Combined gas and groundwater	Design detail on ESSD 7

Table 2: Landfill Gas Monitoring requirements

Determinands	**Monitoring Frequencies**	**Units and Accuracies**
Methane (CH_4)	Quarterly	%v/v ±0.5%
Carbon Dioxide (CO_2)	Quarterly	%v/v ±0.5%
Oxygen (O_2)	Quarterly	%v/v ±0.5%
Atmospheric Pressure	Quarterly	±1 mb
Differential pressure	Quarterly	±0.1 mb
Meteorological Data	Quarterly	-

3.4 Landfill gas infrastructure maintenance

Phase 1	**MP1.1- MP1.2**	Monitoring Point in waste	Design detail on ESSD 7
Phase 2	**MP2.1- MP2.2**	Monitoring Point in waste	Design detail on ESSD 7
Phase 3	**MP3.1**	Monitoring Point in waste	Design detail on ESSD 7
Perimeter	**BH 3,4,5**	Monitoring Borehole outside waste. Combined gas and groundwater	Design detail on ESSD 7

Gas monitoring infrastructure maintenance: Checking to ensure monitoring points are in place and valves are free from obstruction covered in the ESSD.

3.5 Groundwater infrastructure

Table 3: Groundwater monitoring boreholes

Perimeter	**BH3**	Perimeter Down Hydraulic Gradient	Level and Quality
Perimeter	**BH4**	Perimeter Down Hydraulic Gradient	Level and Quality
Perimeter	**BH5**	Perimeter Up Hydraulic Gradient	Level and Quality

Table 4: Groundwater Monitoring Parameters

Parameter	**Landfilling Phase**		**Closure/ Aftercare**
	Quarterly	**Annually**	**Annually**
Water Level	•	•	•
pH	•	•	•
Electrical conductivity 20°C	•	•	•
Ammoniacal nitrogen	•	•	•
Chloride	•	•	•
Sulphate	•	•	•
Alkalinity	•	•	•
Sodium	•	•	•
Potassium	•	•	•
Calcium	•	•	•
Magnesium	•	•	•
Iron	•	•	•
Cadmium	•	•	•
Copper	•	•	•
Chromium	•	•	•
Lead	•	•	•
Nickel	•	•	•
Zinc	•	•	•
Mercury	•	•	
Hazardous Substance Scan		Annual for first six years	Six Yearly

3.6 Groundwater infrastructure maintenance

Groundwater monitoring infrastructure maintenance: Checking to ensure monitoring points are in place and valves are free from obstruction covered in the Hydrogeological Risk Assessment HRA

3.7 Cap maintenance

The site does not require an engineered cap as it is an inert landfill site.

4.1 Monitoring

4.2 Landfill gas monitoring

Landfill gas monitoring: Quarterly monitoring

4.3 Groundwater monitoring

Groundwater monitoring: Quarterly monitoring

4.4 Restored surface monitoring

Not applicable. Covered under Planning Permission. Soils available on site

5.1 Reporting

5.2 Significant environmental effects

Significant environmental effects: This includes breaches of Compliance Limits for Landfill Gas and Groundwater Trigger Levels Table S4.2 and S4,3.Please note that Table S4.1 is not applicable for the restoration phase

6.1 Habitats

6.2 Habitats sites

Not applicable.