WATERDALE WASTE TRANSFER STATION APPLICATION TO VARY ENVIRONMENTAL PERMIT EPR/BP3793MQ

Site Condition Report

Hertfordshire County Council

JER9664
WATERDALE WASTE TRANSFER STATION (SHREDDING FACILITY)
2
0
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Quality Management

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1 INTRODUCTION

1.1 Background

1.1.1 This Site Condition Report (SCR) document supports the application to vary the existing environmental permit (EPR/BP3793MQ) operated by Hertfordshire County Council (HCC) for Waterdale Waste Transfer Station (WTS) at A405 North Orbital Road, Garston, Hertfordshire, WD25 0PR.

1.1.2 Under the permit variation application, HCC seeks to incorporate additional land within the permit boundary. A new building will be constructed on the additional land and will house a bulky waste shredding operation.

1.2 Scope of Site Condition Report

1.2.1 This SCR covers the area of land to be added into the permitted WTS as indicated on Drawing 2 - Site Layout Plan.

1.2.2 This report seeks to fulfil the requirements of the EPR and has been prepared in accordance with EA guidance on the preparation of an SCR[1].

1.2.3 The objectives of this SCR are to:

- Describe and record the condition of the land and groundwater at the time that the application for an Environmental Permit (EP) is submitted,
- Identify the environmental setting and land pollution history of the site, and
- Identify any activities that will be undertaken at the facility that may lead to pollution.

1.2.4 This SCR provides a point of reference for the new area of land at the start of the operations under the permit so that, in the event of the permit being surrendered, a decision can be made as to whether there has been any additional contamination of the site during the operation of the plant, and action can be taken if necessary to ensure that the condition of the land and groundwater are in a 'satisfactory state' when an application to surrender the permit is made.

1.2.5 Following the issue of the permit, the operator will ensure that management systems are in place to implement the operational phase of the SCR (Section 4) and that the necessary data are collected to demonstrate that the land is in a 'satisfactory state' should the permit need to be surrendered.

1.2.6 Section 5 of the SCR will be completed by the operator upon permit surrender to demonstrate that a 'satisfactory state' has been achieved.

1.2.7 The operator will implement an environmental management system (EMS). The management, monitoring and reporting requirement of the permit will be complied with, which will ensure that any environmental protection elements are implemented.

[1] Environmental permitting: H5 Site condition report - GOV.UK (www.gov.uk)

2 APPLICATION SITE CONDITION REPORT

2.1 Application Phase

2.1.1 This SCR, is prepared in accordance with the Environment Agency Horizontal Guidance Note H5, provides references to the various chapters of this report, where available information on the known current condition of the new area of land is provided.

2.2 Site Condition Report Summary

1.0 Site Details	
Name of the applicant	Hertfordshire County Council
Activity address	Waterdale Waste Transfer Station, A405 North Orbital Road, Garston, Hertfordshire, WD25 0PR
National grid reference	TL 11874 01573
Site area (ha)	Approximately 1 ha is to be added to the permitted boundary part of this variation. In total, the permitted site area will be approximately 5 ha.
Document reference and dates for Site Condition Report at permit application and surrender	Application: JER9664 Waterdale Waste Transfer Station Site Condition Report
Document references for site plans (including location and boundaries):	See Drawings section of this SCR • Drawing 5 – Site Location Plan • Drawing 2 – Site Layout Plan (showing site layout including the ownership boundary, existing and proposed addition to the installation boundary) • Drawing 3 – Site Drainage Plan (showing the proposed shredding building detailed drainage design) • Drawing 4 – Receptor Plan

2.0 Condition of the land at permit issue	
Environmental setting including: • Topography • Geology • Hydrogeology • Hydrology • Environmental Consents, Licences, Authorisations, Permits and Designations	Details of the environmental setting are provided in sections 3.1 to 3.6 of this SCR
Pollution history including: • Location, nature of incidents or direct discharges that may have affected soil or groundwater. • Historical land uses and associated contaminants	Pollution history details are provided in sections 3.7 to 3.8 of this SCR.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	Details of historical contamination near to the site are provided in section 3.9 of this SCR.
Baseline soil and groundwater reference data	Details of previous ground investigations are provided in section 3.10 of this SCR.
Supporting information	Source information identifying environmental setting and pollution incidents:

	• Permitted Waste Types and Quantities • Envirocheck Report • Preliminary Risk Assessment (Desk Study) Report • Generic Quantitative Risk Assessment

3.0 Permitted activities	
Permitted activities	Details of the permitted activities are provided in section 2.5 of this SCR.
Non-permitted activities undertaken	Details of non-permitted activities are provided in section 2.6 of this SCR.
Document references for: • plan showing activity layout; and • environmental risk assessment.	• Drawing 2 – Site Layout • Appendix D to the Variation document.

2.3 Site Location

2.3.1 The Waterdale WTS is located at A405 North Orbital Road, Garston, Hertfordshire, WD25 0PR.

2.3.2 The site layout map is presented in Drawing 2. The blue boundary shows the extent of the site ownership. The green highlighted area indicates the existing site boundary whereas, the orange outline indicates the land to be incorporated into the permitted boundary that will house the new shredding building.

2.4 Surrounding Areas and Sensitive Receptors

2.4.1 Waterdale WTS lies just to the north of the town of Garston and just inside the M25 motorway which runs 1.25 km to the north of the site boundary. The local area consists of a mixture of community, commercial and residential properties.

2.4.2 To the north and adjacent to the WTS is the existing Waterdale Recycling Centre (WRC) site, which operates under a separate permit EPR/BP3793MQ.

2.4.3 Immediately to the north of the proposed extension to the WTS site is Junction 6 of the M1 motorway, to the east is the M1 North bound carriage way, to the south residential properties and open public space and to the west the A405 North Orbital Road/St Albans Road. Beyond the A405 to the west is West Herts Crematorium and the playing fields belonging to Parmiter's School, the school buildings lying less than 0.5 km from the site boundary. The nearest residential property lies approximately 135m south-east from the boundary of the proposed extension to the existing site.

2.4.4 A pre-application heritage and nature conservation screening report, included as Appendix N to the supporting information document, was received from the EA. The following protected habitats were identified within the relevant screening distances:

- Bricket Wood Common, Site of Special Scientific Interest (SSSI) – approximately 850 m east.
- Deciduous woodland on the boundary of the site.

2.4.5 A Receptor plan is included as Drawing 5 in Appendix C to the Supporting Information document.

2.5 Permitted Activities

2.5.1 The existing plant can receive a maximum of 300,000 tonnes per annum of municipal waste. The proposals to vary the Permit will not change the permitted amount of waste received at the WTS. It will however provide additional space for the existing WTS activities.

2.5.2 A full list of the wastes that the WTS is permitted to accept is included within Appendix A. There will be no change to the permitted wastes as a result of this variation. The waste types accepted include non-hazardous residual MSW and Commercial and Industrial waste including wastes from end-of-life vehicles, waste electrical and electronic equipment, construction and clinical wastes. Hazardous waste accepted at the facility include waste oils, batteries, bonded asbestos containing insultation and construction materials, clinical waste and chemicals (including solvents, alkaline, pesticides and photochemicals).

2.5.3 The wastes to be accepted within the new building subject to this SCR will be bulky household waste e.g., furniture, carpets and mattresses which are currently received, stored and shredded within the existing building. Approximately 30,000 tonnes per annum of bulky waste will be treated within the new building.

2.5.4 The existing WTS site stores the raw materials listed in Table 2-1, no additional storage of these materials will be required within the new area to be included as part of the facility:

Table 2-1: Raw Materials Stored on Site

Substance	Description	Volume and how the material is stored	Actual Pollution Risk[1]
Fuel	Natural gas for heat and hot water for welfare facilities.	2,200 litre tank in a locked compound	Used material from spill kits located adjacent to the storage areas are bagged and stored in a locked container in the oil store pending collection from site.
Fuel	White diesel for fuelling the lorry fleet	27,427 litre below-ground tank	
Fuel	Red Diesel for fuelling on-site vehicles	24,477 litre below-ground tank	
Fuel additive	“AdBlue”	20,000 litre tank	
Oils	Oils and fluids used for maintenance	Containers are stored in a locked room with an impermeable floor, and within bunded trays	

2.5.5 The new building will be used for storage of the bulky wastes, shredding of these wastes and storage of the shredded waste. The building would be fitted with fast-action roller-shutter doors such that loads brought to the facility would be tipped internally with the openings to the building closed.

2.5.6 An extraction system is proposed for the shredding building that would vent to atmosphere via an 11 m high stack after passing extracted air through a carbon filter to remove odour.

2.6 Non-Permitted Activities

2.6.1 The site includes office and welfare facilities as part of the existing WTS.

2.7 Site Drainage

2.7.1 Run off from the concrete access road and the area surrounding the extraction system is discharged to sewer via full retention interceptors. (see Drawing 2).

2.7.2 Clean run-off from roofs and roadways is discharged separately via soakaways. The soakaway, labelled as area G on Drawing 2, is a geo-cellular soakaway comprising 139 units measuring 2,000 x 1,000 x 750 mm high. The soakaway is served by a 300 mm diameter perforated pipe. Four soakaway test points to enable soil infiltration rate/permeability will be installed, denoted TP01 to TP04 on Drawing 4.

2.7.3 In the event of a fire, firefighting water can be diverted away from the soakaway to the 650m^3 capacity storage tank by motorised penstock valves.

2.7.4 There are no process emissions to controlled waters from the installation.

2.7.5 Site drainage is also shown on Drawing 4 in Appendix C to the Supporting Information document.

3 CONDITION OF LAND AT APPLICATION

3.1 Information Sources

3.1.1 The condition of the additional land to be included within the WTS site boundary has drawn on the following sources of information which are included as appendices to this SCR:

- Hertfordshire County Council Waterdale Shredding Building, Preliminary Risk Assessment Report, prepared by RPS, September 2021 (full report can be found in Appendix C).
- Hertfordshire County Council Waterdale Shredding Building, Generic Quantitative Risk Assessment Report, prepared by RPS, April 2022 (full report can be found in Appendix D)

3.1.2 In addition, information has been taken from the Envirocheck Report provided in Appendix B to this report, the British Geological Survey (BGS) Geology of Britain viewer[2] and Magic Map[3].

3.2 Geology

3.2.1 Information obtained from BGS Geology viewer indicates that the solid geology underlying the site is anticipated to be Chalk of the Lewes Nodular Chalk Formation and the Seaford Chalk Formation.

3.2.2 Additionally, the drift geology was anticipated to be underlain by superficial deposits of sand and gravel of the Winter Hill Gravel, this layer typically ranging from 1-8 m. Due to the developed nature of the site, made ground would also be anticipated underlaying the site.

3.3 Hydrology

3.3.1 There are a number of nearby surface water bodies in the vicinity of the site these include:

- A small surface water retention pond is located in the northern portion of the site.
- The closest water body is the River Rub situated approximately 200 m to the north of the site.
- The River Leas runs approximately 1.9 km to the south of the site.

3.4 Ground Cover and Topography

3.4.1 The RPS Generic Quantitative Risk Assessment details that most of the ground cover at the site comprises bituminous macadam (tarmac) hardstanding and brick, of which good integrity was displayed throughout the site, with no obvious cracks, breakages or potholes. Other areas of the site are covered in natural vegetation, amenity grass cover and dense mature trees to the east and north of the site. The overall topography of the site is generally level.

3.4.2 OS mapping indicates that the site is approximately 69m AOD.

3.5 Environmental Data

Water Abstraction

3.5.1 There are three active water abstractions highlighted in the Envirocheck report that have been identified within 1 km of the site. Details of these are provided in Table 3-1 below:

[2] BGS Geology Viewer - British Geological Survey

[3] Magic Map Application (defra.gov.uk)

Table 3-1: Water Abstractions

Operator	Licence Number	Location	Distance from Site
Building Research Establishment Limited	28/39/28/0616	Borehole at Bucknalls Lane, Garston	459 m SE
Building Research Establishment Limited	28/39/28/0545	Borehole at Bucknalls Lane, Garston	459 m SE
H N Ridyard	28/39/28/0224	55 Bucknalls Drive, Bricket	631 m E

Discharge Consent

3.5.2 Within 1 km of the site, there are six active discharge consents highlighted in the Envirocheck report. Details of these are provided in Table 3-2 below;

Table 3-2: Discharge Consent

Operator	Licence Number	Location	Distance from Site
Mr M White	Canm.0388	Penfold Park Golf Course, A405 Orbital Road, Garston, Watford, Hertfordshire, WD2 7NB	28 m SE
Mr. G.B. Bernikas	CTWC.3371	New Cottage, High Elms Lane, Garston, Watford, Hertfordshire	378 m W
Mrs C Brown	Canm.0913	Mrs C Brown Waterdell, Chequers Lane, Watford, Hertfordshire, WD25 0GR	482 m NW
Building Research Establishment	Catm.3279	Building Research Establishment, Bucknalls Lane, Watford, WD2 7JR	508 m E
Mr. P. Searles	CTWC.2453	1 Oaklea Cottages, Chequers Lane, Waterdell, Watford, Herts	881 m NW
Miss E. Ball	CTWC.2438	Oaklea Cottages, Chequers Lane, Bricket Wood, Herts	903 m NW

Historic Landfill Site

3.5.3 There are no historical landfill sites located within 1 km of the site.

Active Landfill Sites and Waste Management Facilities

3.5.4 There are no active landfill sites located within 1 km of the site.

3.5.5 There is only one licenced wate management facility which is the existing Waterdale WRC site situated to the north and adjacent to the WTS, which operates under the permit EPR/BP3793MQ.

Installations

3.5.6 There are two permitted installations highlighted in the Envirocheck report that have been identified within 1 km of the site. Details are provided in Table 3-3 below:

Table 3-3: Installations

Operator	Licence Number	Location	Distance from Site

West Hertfordshire Crematorium	EPR/001	High Elms Lane, Garston, Watford, Hertfordshire, WD2 7JS	164 m SW
Chequers Petrol Station	Voc/04/98	125 Old Watford Road, Bricket Wood, St Albans, Hertfordshire, AL1 4SU	283 m N

Coal Authority Reports

3.5.7 A search using the Coal Authority website, indicated that, from the information currently available to the Coal Authority, the site is not located on a coal field. The search indicates that a coal mining search report is not recommended for the site.

COMAH

3.5.8 There are no COMAH sites recorded within 1 km of the site.

Radon

3.5.9 According to the UK Health Security Agency[4] (UKHSA) at the time of writing, the site is located within the highest radon potential 1 km grid square. This 1 km grid square are in bands of elevated radon potential. Maximum radon potential is 3 - 5%.

Registered Radioactive Substances

3.5.10 There are no recorded registered radioactive substance users within 1 km of the site.

3.6 Pollution History

Pollution Incidents

3.6.1 The Envirocheck report identifies one pollution incident having an effect on land or water within 1 km of the site. Details are provided in Table 3-4 below:

Table 3-4: Pollution incidents

Type of Pollution Incident	Incident Date	Location	Incident Severity	Distance from Site
Pollution to Controlled Waters	24 July 1995	Bricket Wood	Category 3 – Minor Incident	187 m NW

Historical Land Uses

3.6.2 The Envirocheck report has been used to describe the historical land uses on and surrounding the site. Details are provided in Table 3-5 below:

Table 3-5: Historical Land Use

Dates	On-site	Surrounding Land Uses and Features
1883	The current area of the site was situated in an open farming field.	Predominantly open fields surrounded by farmland and woodland areas.
1899	St Albans road crosses into the northwest of the site.	Predominantly open fields with the St Alban Road running parallel to the sites western side.

[4] UKradon - UK maps of radon

1920 - 1925	-	Still predominantly open fields. Surrounding settlements of Waterdale, Bucknalls and Garston becoming larger.
1938	St Albans road has been widened and migrates further into the northwest of the site.	Surrounding settlements of Waterdale, Bucknalls and Garston becoming more established. St Albans road become wider and is established as a main transport link.
1939	-	Watford Rural areas has been designated to the west of the site.
1960	-	Bricket Wood to the east of the site has been felled to make room for buildings. Surrounding areas of Bricket Wood and Garston have become populated with the construction of several houses. Three schools set up to the southwest of the site.
1965	M1 intersects St Albans Road at the northern end of the site. The rest of the site is still farmland used by Brookdell Farm.	M1 has been established and intersects St Albans Road and runs parallel to the eastern side of the site.
1975	-	Surrounding areas of the become more urbanised, with expansions to the existing schools and more amenities constructed. A sports ground occupies adjacent land to the south of the site.
1990-2006	The intersection of the M1 and St Albans Road at the northend of the site is removed. A depot has been set up on-site, replacing the existing Brookdell farm. A small pond is situated at the most northeastern point of the site.	Surrounding areas become distinguished towns. By 1999 the sports ground on adjacent land to the south of the site has been developed as a golf course.
2021	A recycling site now covers the majority of the site, and a bus depot is now situated at the southern end of the site. This bus depot area includes an office building, garage and test facility as well as extensive parking facilities for vehicles.	Surrounding areas becoming more densely populated.

3.6.3 The site lies within an area that has historically been used as farmland, with the encroachment of urban areas over time leading to two major roads (St Alban Road and M1) being set up that separate the site and surrounding areas.

3.6.4 Most of the area within the permitted site has previously been used as a depot station and beforehand it has been used as farmland and agricultural purposes.

3.7 Evidence of Historic Contamination

3.7.1 The Envirocheck report highlights that there are no records of historical contamination that have occurred onsite.

3.8 Existing Site Investigation Data

3.8.1 As noted in section 3.1.1 above two previous reports have been produced for the site. The full reports can be found within Appendix C and D. A summary of these reports is detailed below:

1. RPS Preliminary Risk Assessment (Desk Study) report (September 2021), see Appendix C. The objectives of this report were as follows:

    - Collate desk study information regarding the site and surroundings to allow identification of the potential contaminant sources, potential pathways and potential receptors in accordance with the guidance provided within Land Contamination Risk Management (LCRM)

- Collation of existing geo-environmental data to assess the potential risk to human health and the environment.
- Assess the above to determine if intrusive investigation and further assessment would be required.

The Preliminary Risk Assessment concluded that a quantitative risk assessment should be carried out to determine if source – pathway – receptor linkages are present.

2. RPS Generic Quantitative Risk Assessment (April 2022), see Appendix D. Potential pollutant linkages on site were identified in PRA, therefore this Qualitative Risk Assessment was required to report on the investigative ground works undertaken by Causeway Geotech Ltd in February 2022. This involved intrusive ground investigation consisting of four (4) boreholes to a maximum depth of 20.00 m bgl. Groundwater and gas monitoring standpipes were installed at 3 of the 4 boreholes (BH02, BH03 and BH04). See Table 3-6 below for borehole location rational.

Table 3-6: Borehole Location Rational

Exploratory Hole	Rationale for Location
BH01	Located within the north-western portion of the new site and in the footprint of the proposed shredding building to facilitate soil sampling, groundwater and ground gas monitoring and geotechnical testing.
BH02	Located in the central western portion of the new site beside the former VOSA Bus/HGV garage and within the footprint of the proposed shredding building to facilitate soil sampling, groundwater monitoring and ground gas monitoring and geotechnical testing.
BH03	Located within the south-western portion of the new site to facilitate soil sampling, groundwater and ground gas monitoring and geotechnical testing.
BH03	Located within the southern portion of the new site within the footprint of the proposed shredding building to facilitate soil sampling, groundwater monitoring and ground gas monitoring and geotechnical testing.

- Three (3) soil infiltration soakaway tests carried out in three locations.
- A trial pit was excavated to a depth of 2.80m.

3.8.2 A summary of the Generic Quantitative Risk Assessment is provided below.

Ground Contamination

3.8.3 Six soil samples were analysed for the following chemical parameters; asbestos identification, moisture content, pH, boron (water soluble), sulphate (2:1 water soluble) as SO_4, total sulphur, sulphur (elemental), cyanide (free), cyanide (total), thiocyanate, aluminium, iron, arsenic, barium, beryllium, cadmium, chromium, manganese, copper, mercury, nickel, lead, selenium, vanadium, zinc, chromium (hexavalent), organic matter, total organic carbon, total petroleum hydrocarbons (TPH-CWG C5 – C35 aromatic-aliphatic split), speciated polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and phenols (speciated HPLC).

3.8.4 One soil sample (BH04 0.50m bgl) was analysed for speciated Poly Chlorinated Biphenyls (PCBs).

3.8.5 Two soil samples were also analysed for soil leachability.

3.8.6 The GQRA reports that no visual and olfactory observations of contamination were identified during the investigation.

3.8.7 No asbestos was detected in soil sample across the site.

3.8.8 No exceedances of the commercial screening values used were recorded within the soil samples. Consequently, no significant source of contamination was identified in soils sampled across the site.

3.8.9 Findings from the soil screening results are presented within Appendix C of Generic Quantitative Risk Assessment (see Appendix D). These results form the baseline conditions for the shredding facility.

Groundwater

3.8.10 Groundwater levels within installed boreholes were monitored on four occasions between 17th December 2021 and 27th of January 2022, using an acoustic dip-meter. Whilst three of the four boreholes were sampled, two boreholes were dry with only BH03 providing a sample that could be analysed.

3.8.11 A previously drilled borehole to the north of the site (Ex BH04), located in the existing WRC site this was also monitored on 12th March 2022. See Table 3-7 below for details.

Table 3-7: Exploratory Borehole Summary

Location	Proposed Termination Depth (m)	Actual Termination Depth (m)	Obstruction/problems Encountered	Installation Monitoring Details
Ex BH04	25.00	25.00	Termination at scheduled depth.	0.00 to 1.10m plain 1.10 to 3.20m slotted, targeted to Superficial Clay and Gravel

3.8.12 All samples were analysed for the following chemical parameters:

- Heavy metals.
- Speciated total petroleum hydrocarbons (TPHs).
- Speciated polycyclic aromatic hydrocarbons (PAHs).
- Speciated polychlorinated biphenyls (PCBs).
- Phenols.
- Volatile and semi volatile organic compounds (VOCs & SVOCs).
- Inorganics.

3.8.13 Monitoring results are presented in Table 3-8 below.

Table 3-8: Standing Groundwater Levels

Borehole ID	Groundwater Levels (m OD)				
	17.12.2021 (Round 1)	06.01.2022 (Round 2)	18.01.2022 (Round 3)	27.01.2022 (Round 4)	27.01.2022 (Round 5)
BH02	Dry	Dry	Dry	Dry	-
BH03	62.15	62.17	62.22	62.19	-
BH04	Dry	Dry	Dry	Dry	-
Ex BH04	-	-	-	-	Dry

	Screened across MADE GROUND
	Screened across CHALK aquifer
	Screened across Shallow CLAY

3.8.15 Groundwater was predominantly encountered in the Chalk horizon during groundwater investigation. Groundwater was not encountered within the Made Ground during the investigation.

3.8.16 Groundwater from BH03 was analysed for a similar suite of contaminants as the soil samples. All other boreholes were dry throughout the monitoring period and not possible to collect groundwater samples from BH02, BH04 and Ex BH04.

3.8.17 A limited number of boreholes were installed within the Chalk aquifer to ascertain the direction of groundwater flow via triangulation.

3.8.18 No visual and olfactory observations of contamination were identified during the investigation.

3.8.19 Findings from groundwater screening results are presented within Appendix D of Generic Quantitative Risk Assessment (see Appendix D). These results form the baseline groundwater conditions for the shredding facility.

Ground Gas

3.8.20 Four rounds of monitoring were undertaken by Causeway Geotech ltd from the 17th of December to 27th January 2022.

Table 3-9: Exploratory Borehole Summary

Location	Proposed Termination Depth (m)	Actual Termination Depth (m)	Obstruction/problems Encountered	Installation Monitoring Details
BH01	20.00	15.20	Termination on obstruction.	No installation
BH02	20.00	20.00	Termination at scheduled depth.	0.00 to 0.20m plain 0.20 to 1.00m slotted, targeted to Made Ground
BH03	20.00	18.60	Termination on obstruction.	0.00 to 10.00m plain 10.00 to 18.60m slotted, targeted to groundwater within the Chalk
BH03	20.00	20.00	Termination at scheduled depth.	0.00 to 0.20m plain 0.20 to 1.00m slotted, targeted to Made Ground

3.8.21 During drilling of BH01, refusal was encountered at 15.20 m bgl due to an obstruction. The depth was acceptable as a termination depth because sufficient Geotechnical data was recorded however no monitoring standpipe was installed. Drilling at BH02 and BH04 terminated at the scheduled depth of 20.00 m and standpipes were installed. Whilst BH03 terminated on an obstruction at 18.60 m, a standpipe was still installed as the depth was deemed sufficient.

3.8.22 The maximum recorded concentration (volume gas/volume air) was 0.1 vol/vol% for Methane and 0.9 vol/vol% for Carbon dioxide at BH04. The maximum flow rate was recorded as 0.4 litres/hour at BH03.

3.8.23 Based on the gas screening value (GSV = gas concentration % x borehole flow rate) for the site, which was calculated as 0.0036 l/hour. There is a very low risk to receptors from ground gas.

3.8.24 No gas protection measures will be required within the new permitted area.

3.8.25 Findings from gas screening results are presented within Appendix F of Generic Quantitative Risk Assessment (see Appendix D). These results form the baseline ground gas conditions for the shredding facility.

3.8.26 A full set of laboratory results can be found in Appendix G of Generic Quantitative Risk Assessment (see Appendix D), these conditions form the baseline conditions for ground conditions, groundwater and ground gas.

4 OPERATIONAL SITE CONDITION REPORT

4.1 Operational Phase

4.1.1 This section of the SCR will be updated during the operational phase of the activities within the new area of land. It includes information that will be recorded during the operational phase as required by Environment Agency Horizontal Guidance Note H5.

4.2 Site Condition Report Summary

4.0 Changes to the Activity	
Have there been any changes to the activity boundary?	The 2023 variation is set to add new land within the permitted boundary. A new waste treatment building will house the shredding of bulky residual waste operation that is currently undertaken within the existing WTS building.
Have there been any changes to the permitted activities?	Whilst additional building space is provided the overall capacity of the facility will remain as permitted at 300,000 tpa and the types of waste to be treated will not change from those currently included within the existing permit.
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	No.
Checklist of supporting information	• Plan showing any changes to the boundary. • Description of the changes to the permitted activities (where relevant) • List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant).
5.0 Measures Taken to Protect Land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	• Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair and replacement of pollution prevention measures.
6.0 Pollution Incidents that may have had an Impact on Land, and their Remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	• Records of pollution incidents that may have impacted on land. • Records of their investigation and remediation
7.0 Soil Gas and Water Quality Monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	• Description of soil gas and/or water monitoring undertaken • Monitoring results (including graphs)

5 SURRENDER SITE CONDITION REPORT

5.1.1 At permit surrender, the following sections of the SCR (EPR H5) will be completed and submitted to the Environment Agency as part of the permit surrender application. Information that has been gathered over the lifetime of the Permit will be used to identify whether the land is in a satisfactory condition. If necessary, surrender reference data will be collected and remediation will be undertaken if required.

8.0 Decommissioning and Removal of Pollution Risk	
Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.	
Checklist of supporting information	• Site closure plan • List of potential sources of pollution risk • Investigation and remediation reports (where relevant)

9.0 Reference Data and Remediation (Where Relevant)	
Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated. If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.	
Checklist of supporting information	• Land and/or groundwater data collected at application (if collected) • Land and/or groundwater data collected at surrender (where needed) • Assessment of satisfactory state • Remediation and verification reports (where undertaken)

10.0 Statement of Site Condition
Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that: • The permitted activities have stopped. • Decommission is complete, and the pollution risk has been removed. • The land is in satisfactory condition

6 CONCLUSIONS

6.1.1 This SCR has been prepared in support of the variation application to include a new shredder building on additional land at the Waterdale Waste Transfer Station site.

6.1.2 The additional area of land to be included under the variation has no known previous pollution incidents occurrence on site. The only pollution incident recorded in the vicinity of the site relates to pollution to controlled waters occurring >100 m away from the site.

6.1.3 No significant pollutant linkages were identified in relation to ground, groundwater and ground gas concentrations from site investigative studies. The ground condition, groundwater, and gas concentrations identified in Section 3.8 of this report forms the baseline conditions for the new area of land to be occupied by the shredding facility.

6.1.4 It is concluded that sufficient data is available to baseline the shredding facility at Waterdale Waste Transfer Station.

6.1.5 Following this variation the information set out in Section 4 of this report will be updated during the operational phase of activities within the new area of land. At site closure the information required by the Environment Agency at that time will be provided and Section 5 of this report will be updated to support the surrender process.

DRAWINGS

Drawing 5 – Site Location Plan
Drawing 6 – Site Layout Plan
Drawing 7 – Site Drainage Plan
Drawing 8 – Receptor Plan

APPENDICES

Appendix A

Permitted Waste Types and Quantities

Appendix B

Envirocheck Report

Appendix C

Preliminary Risk Assessment (Desk Study) Report

Appendix D

Generic Quantitative Risk Assessment